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SALARIES

OF

SCIENTISTS ■ ENGINEERS

AND TECHNICIANS

. . A Summary of Salary Surveys . .

Fifteenth Edition

COMMISSION ON PROFESSIONALS IN
SCIENCE AND TECHNOLOGY

AUGUST 1991

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FIFTEENTH EDITION

Prepared by

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INTRODUCTION

Salary surveys are conducted by a number of organizations, including agencies and departments of the federal government, professional, scientific and engineering organizations, educational associations, magazine publishers, other professional trade associations and organizations, as well as for-profit organizations. Some surveys deal directly with salaries of scientists and engineers, others cover broader occupational categories. Most salary surveys conducted by professional scientific and engineering societies cover only their membership. However, since such societies generally represent the majority of the population in their particular discipline, the results may be generalized to these professional populations. Some smaller salary surveys in specific disciplines are included for comparative purposes, as are surveys in occupations not specifically in science and/or engineering.

Although most of the salary data presented in this report are available from the original sources, this compilation brings together the information from a variety of sources both for purposes of comparison and for easier accessibility.

For a number of reasons, exact correlation of results of different surveys is generally not possible. Different methodologies are employed and differing populations are surveyed. The statistical reporting bases include medians, means, percentiles and ranges of one of these, which are not directly comparable. In addition to the "snapshot" characteristics of surveys, which provide information as of any given date, the time periods covered by the surveys include calendar year, fiscal year, academic year, and quarterly segments starting at various points in the year. The base and time period for each table is noted with the table and/or in the introductory statement for the section in which it appears.

Although no attempt has been made to evaluate the relative reliability of the various surveys, the number of people included in the statistics presented is given when known. In some cases, the number of respondents listed within a table will not match totals for all fields or all groups, either because some areas not applicable to science and engineering have been omitted, or because only selected variables have been included in the table.

The source of the data is given at the top of each table. Full bibliographic references for each data source begin on page 220. A cross-index beginning on page 224 and a detailed Table of Contents provide rapid access to specific salary information.

Generally, only the most current salary information is included from each data source. However, some trend data, usually limited to the survey immediately preceding the current survey, are included for comparison. Long trend salary information may be examined by referring to earlier editions of this publication which has been issued biennially since 1964. Copies of the first 14 editions of **SALARIES OF SCIENTISTS, ENGINEERS AND TECHNICIANS - A SUMMARY OF SALARY SURVEYS** are available from the **Commission on Professionals in Science and Technology.**

This report was prepared by **Eleanor L. Babco**, Associate Director of the Commission on Professionals in science and Technology. Special thanks are extended to Fred Duffy and the CPST staff for their invaluable assistance.

STARTING SALARIES

The **College Placement Council's SALARY SURVEY - A STUDY OF 1990-91 BEGINNING OFFERS** reports offers, not acceptances, with no limit on the number of offers per student. Data cover offers made to graduating college students at all degree levels in a wide variety of curricula during the recruiting period September 1, 1990 to August 31, 1991. Information is submitted throughout the year by 450 career planning and placement offices of colleges and universities across the United States. The data cover a broad range of functional positions.

The July 1991 report found that although the economy has shown some recent improvement, the rebound was too late to improve recruiting activity for this year's college graduates. Earlier in 1991, employers had put hiring plans on hold, reducing the number of opportunities available to 1991 graduates. Graduates also found most employers more conservative and cautious about their offers. Average salary offers in more than a third of the reported curriculum areas were lower than in September 1990, though the changes were generally slight. Fewer than half of the reported areas showed salary changes greater than 4 percent up or down.

Offers to graduates in the business disciplines typify the conservative stance of employers. Both accounting and business administration graduates received starting salary offers less than one percent above last year's offers for averages of $26,602 and $23,616, respectively. Economics and finance graduates fared only slightly better, averaging offers of $25,913, up 2.9% over last September's final figure. Humanities and social science graduates found themselves on the downside of the employer caution line. Averaging $22,806 and $21,516, respectively, humanities and social science graduates experienced slight decreases in their starting salary offers. However, thanks to their short-supply/high-demand status, health-care graduates found employers exhibiting neither caution nor hesitance. Offers to nursing graduates were 9% higher than those posted last September, averaging $30,801. Those in allied health were up 8.1% to $29,654. Also faring well were engineering graduates. The petroleum industry, buoyed by higher oil prices that made domestic production financially attractive, kept petroleum and chemical engineers at the top of the starting salary offer scale. The average offer to petroleum engineers jumped 10.7% to $38,972, while the average offer to chemical engineers, $37,381, represented a 6.4% increase. Mechanical and electrical engineers also posted gains. Environmental regulations and the rebuilding of the nation's infrastructure promise long-term, abundant opportunities for graduates in related areas. Average starting salary offers for environmental engineering positions rose 6.5% since September to $30,989. However, the outlook for aerospace engineers is not promising due to cutbacks and layoffs in the aerospace industry **(Table 1)**.

Men received 78% of the offers reported in engineering, but women graduates in petroleum engineering were offered the highest overall average engineering salary of $39,575. Although women received equal or nearly equal starting salary offers in engineering, wide disparities exist in other disciplines. In the sciences, men received 12% more in the biological sciences - $22,214 compared to $20,723; and 13% more in psychology - $22,522 compared to $19,519. A degree for women in chemistry was worth only 90% of the offer for men. Offers to men and women in the business disciplines were closely split, with 54% of the offers going to men and 46% to women, and salaries were comparable in most of the business disciplines for men and women **(Table 2)**.

By functional area, the bulk of the offers to both men and women were for engineering and accounting jobs. The salary offers were highest for both men and women in pharmacy, followed by process engineering. Offers were lowest in some of the communications and social services fields for both men and women **(Table 3)**.

At the master's level, technical MBAs posted respectable gains, rising 4.4% for both inexperienced graduates (to $39,402), and graduates with more than four years of experience (to $53,706). However, in the non-technical MBA arena, it was experience that counted. Offers were down 2.6% from September to non-technical MBA graduates with no experience. Offers to M.S. petroleum engineering graduates rose 14.8% to $44,097, followed by chemical engineers at $40,352. Offers to computer science candidates averaged $37,710 **(Table 4)**.

At the doctoral level, computer and information candidates received the highest average salary offer - $58,458, followed by electrical engineering candidates at $56,164. Of the disciplines reported, PhD candidates in English received the lowest offers - $36,667 **(Table 5)**.

Starting salaries of inexperienced college graduates inched upward in some fields, but decreased in others, according to the annual **1990 COLLEGE RECRUITING REPORT** by **Abbott, Langer & Associates**, which details starting salaries of college graduates hired by 15 types of employers. At the bachelor's level, pharmacy graduates reported the highest median monthly starting salary - $3,400, followed by chemical engineering graduates at $2,983 per month. Graduates in the biological, agricultural, and food sciences, as well as those in home economics reported the lowest - $1,358 per month, **(Table 6)**.

At the master's level, the highest median salary was reported by graduates in marketing - $4,772 per month, followed by those in law at $4,083. For all engineering graduates, the median starting salary was $2,666, which was also reported for graduates in computer science (technically-related), (**Table 7**). M.B.A. graduates with marketing undergraduate degrees reported the highest median starting salary - $4,062 - while those with engineering undergraduate degrees reported the lowest median - $2,333 (**Table 8**). Engineering Ph.D. graduates reported the highest median starting salary of $3,850 per month, followed by those in chemistry. (**Table 9**).

Junior/community college graduates with A.A. degrees in electronic technology reported the highest average starting salary of $2,453 per month, while those in the biological and agricultural sciences reported the lowest average salaries - $1,214 per month, (**Table 10**). Starting salaries for bachelor's graduates by discipline and type of industry are shown in **Tables 11** and **12**. The highest paying employer for engineering graduates continues to be the petroleum/natural gas producers - extracting/refining at $2,920. As a group, non-manufacturing industrial firms paid less than manufacturing firms regardless of discipline.

The **NORTHWESTERN ENDICOTT-LINDQUIST REPORT 1991** is the 45th annual survey on personnel practices policy and related to the employment of college and university graduates in business and industry. Data from 320 well-known companies in 32 states representing all regions of the country indicate that the job outlook in their organizations is not optimistic, with fears of a recession affecting hiring levels. At the bachelor's level, engineering graduates continue to receive the highest average starting salary - $2,862 per month, followed by computer science graduates at $2,660. At the low end of the scale are liberal arts graduates at $2,176 per month, (**Table 14**). Among engineering graduates, those majoring in petroleum engineering continued to receive the highest starting salaries - $3,271 per month, followed by those in chemical engineering at $3,081 per month (**Table 13**).

For the second consecutive year, new college graduates face a tighter and more competitive job market in 1990-91 as employers indicate the largest decreases in hiring quotas since the 1982-83 recession, according to **RECRUITING TRENDS 1990-91** by L. Patrick Scheetz of **Michigan State University**. Overall, employers expect to hire 9.7% fewer new college graduates than they did a year earlier, while starting salaries to new bachelor's graduates are expected to increase only 2.8% over last year to $26,458. Highest starting salaries are expected to go to chemical engineers at $38,114, followed by mechanical engineers at $34,815, and electrical engineers at $34,658. At the low end of the salary scale are graduates in natural resources and journalism with starting salaries of $19,496 and $18,157 respectively, (**Table 15**).

Starting salaries for inexperienced chemists have varied considerably from year to year. At the bachelor's level, median salaries increased a mere 1.5% for chemists to $23,526 but 5.8% for chemical engineers to $34,101 in 1990. Median monthly salaries for men and women chemists from 1961 through 1990 are shown in **Table 16**. Starting salaries for men and women chemists have varied through the years, but in 1989 reached parity and remained that way in 1990. At the master's level, median salaries were up down 3.5% to $28,825 for chemists but up 8.8% to $38,855 for chemical engineers. Doctoral level chemists experienced the largest increase in salaries - 7.5% to $41,688 while doctoral level chemical engineers experienced a 7.1% increase to $49,055, according to the **American Chemical Society's STARTING SALARIES 1990.**

Where a chemist or chemical engineer works has an effect on starting salary. Regardless of degree level or sex, chemists and chemical engineers earn the most working in private industry and the least working in academic institutions (**Tables 17** and **21**). As shown in **Table 24**, industrial chemists at the baccalaureate level earn $1,500 more than chemists working for all other employers. However, because most chemical engineers are employed in industry, there is very little difference in salaries for those employed in industry and those employed elsewhere.

Degree specialty also affects salary levels for graduate chemists. Master's level organic chemists report the highest starting median salary ($32,000), while polymer Ph.D. chemists earned the highest starting salary (**Table 18**). Median annual salaries of chemists and chemical engineers by degree level and length of work experience is shown in **Table 19**. **Table 20** shows both median and mean starting salaries for chemists and chemical engineers by degree level and sex. Only at the doctoral level, is there disparity by sex.

Chemists working in management or administration report the highest starting salary, while those teaching report the lowest regardless of degree level (**Table 22**). Salaries for new BS chemistry graduates are highest in the West South Central region ($29,400) and lowest in the East South Central region ($19,000). New master's level chemistry graduates reported the highest salaries in the New England area while doctoral-level chemists working in the West South Central reported the highest salaries - $45,000.

B.S. chemists reported the highest starting salaries working in the basic chemicals and pharmaceutical industry, while B.S. chemical engineers had the highest starting salary working for the petroleum industry, (**Table 25**). Large

employers generally pay more than smaller ones. BS chemical engineers employed in larger firms (25,000 or more employees) make 8% more than those employed in small firms (less than 500 employees), while BS chemists employed in large firms make 28% more than those employed in small firms (**Table 26**).

The **1990 ANNUAL AMS-MAA SURVEY of New Doctorates** by the **American Mathematical Society** and the **Mathematical Association of America**, prepared by Donald E. McClure, found that business and industry still pays the highest starting salaries for both men and women Ph.D.s in mathematics (**Table 25**). It is noteworthy that women doctorates are receiving higher starting salary offers than men. Trends are shown in **Table 28**).

Robert Half, International has been conducting a **SALARY SURVEY** in the fields of Accounting, Finance, Banking and Information Systems since 1950. Historically, a significant relationship existed between staff/installation size and the level of salaries paid. Although this relationship continues to some extent, the more significant factor in the 1990s will be the complexity of the technology used. In large installations, in the systems and programming area, senior project managers experienced the highest salary gains - 6.4%, while senior managers experienced the lowest - 3.7%. Percentage increases and salary ranges by position in large installations are shown in **Table 29**; and for personnel employed in small installations in **Table 31**. However, some job positions are not directly related to size of staff/installations. Salary ranges for these jobs are shown in **Table 30**.

Industry continues to pay the highest median starting salary to new physics baccalaureate graduates, regardless of sex, according to the **1989-90 SURVEY OF PHYSICS AND ASTRONOMY BACHELOR'S DEGREE RECIPIENTS**, and the **1988-89 GRADUATE STUDENT SURVEY** conducted by the **American Institute of Physics**. **Table 32** shows that women report higher starting salaries at the baccalaureate level in 1990 than do men - $2,110 per month compared with $2,080 per month. **Table 33** presents starting salaries by degree level and type of employer.

The third annual **GEOSCIENTIFIC EMPLOYMENT AND HIRING SURVEY - 1990**, conducted by the **American Geological Institute** examines and assesses the need for and availability of geoscientists in a wide range of fields in a number of employment sectors. Starting salaries for inexperienced geologists, regardless of degree level, were highest in the domestic oil and gas industry, and lowest in academia for baccalaureates and master's graduates, but lowest in the federal government for PhD geologists (**Table 34**).

The fourth annual **NATIONAL COMPENSATION SURVEY OF RESEARCH AND DEVELOPMENT SCIENTISTS AND ENGINEERS**, conducted by **The Hay Group, Washington, DC** for the **U. S. Department of Energy**, continues a series conducted for 18 years by the Battelle Columbus Laboratories. The 1990 survey report represents the largest nationwide database of its kind, covering 104 establishments which provided data on almost 41,000 researchers throughout the United States. Among non-supervisory researchers in 1990, new bachelor's level physics graduates commanded the highest median starting salaries - $2,574 per month, followed by engineers at $2,504 (**Table 35**). By working-as-occupation, graduates working in optics/lasers had the highest starting salary - $2,851, followed by chemical engineers at $2,752. Civil engineers reported the lowest (**Table 36**).

The average salary of U.S. members of the **Institute of Electrical and Electronics Engineers, Inc. (IEEE)**, rose 5% to $60,850, according to the results of the **IEEE U.S. MEMBERSHIP SALARY AND FRINGE BENEFIT SURVEY: 1991**. More than 6,945 members responded to the survey, of whom 85% were employed full-time, and only 1.5% were involuntarily unemployed. Starting salaries of IEEE members are affected by years of experience, as well as size of company and highest degree. Employees in large companies start at higher salaries than those in small companies - **Table 37**. **Table 38** presents starting salaries by highest degree and years of experience. Further information on this report is presented in the **Engineering** Section of this report.

The **1989-90 APSA Survey of Departments**, presents results of 697 political science departments from a survey conducted by the **American Political Science Association**. As shown in **Table 39**, those new faculty members with a doctorate earn more than those without the PhD, while those political science faculty working for institutions granting the doctorate earn more than those working for undergraduate institutions.

The **U.S. Department of Labor's OCCUPATIONAL OUTLOOK HANDBOOK** includes information on starting salaries, as well as estimates of the number of people employed in a wide variety of fields. **Table 40** summarizes starting salary information from the 1990-1991 edition on a selected number of scientific and engineering fields by employment sector.

The **1990 MIDWEST COOPERATIVE EDUCATION STUDENT EMPLOYEE SALARY & BENEFITS SURVEY**, conducted by the **Cooperative Education Research Program** at **Wayne State University** and compiled by **John A. Crusoe**, provides average and median monthly starting salaries to new cooperative education baccalaureate graduates in nine midwest states by curriculum. Information from this survey for 1990 is summarized in **Table 41**.

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers*, July 1991

TABLE 1

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY CURRICULUM, JULY 1991 AND SEPTEMBER 1990

CURRICULUM	NUMBER OF OFFERS	AVERAGE $ OFFERS		PERCENT CHANGE IN $ OFFERS
	JULY 1991	JULY 1991	SEPTEMBER 1990	SEPTEMBER 1990
BUSINESS Accounting	2,774	$26,602	$26,391	0.8
Business Admin. (Incl. Mgmt. Science)	966	23,616	23,529	0.4
Distribution Management	18	27,495	25,079	9.6
Economics & Finance (Incl. Banking)	1,238	25,913	25,184	2.9
Hotel/Restaurant Management	118	21,127	20,752	1.8
Human Resources (Incl. Labor Rel.)	93	24,066	23,101	4.2
Management Info. Systems	322	28,412	27,428	3.6
Marketing/Marketing Management (Incl. Research)	1,081	23,850	23,543	1.3
Real Estate	7	20,760	24,508	-15.3
COMMUNICATIONS Advertising	51	21,866	20,742	5.4
Communications	193	22,067	21,002	5.1
Journalism	103	20,586	19,488	5.6
Telecommunications / Broadcasting	52	23,388	20,413	14.6
EDUCATION Elementary Eduction	273	20,054	18,974	5.7
Pre-Elementary Education	30	16,599	17,507	-5.2
Physical Education	29	19,314	19,904	-3.0
Special Education	50	22,424	20,433	9.7
HOME ECONOMICS Human Ecology	27	21,159	19,383	9.2
Textiles & Clothing	82	21,210	20,662	2.7
Merchandising Management	44	21,017	19,496	7.8
HUMANITIES & SOCIAL SCIENCES Foreign Languages	36	21,636	23,607	-8.3
Letters	112	21,490	21,566	-0.4
Visual & Performing Arts	63	19,646	20,588	-4.6
Humanities-Other	81	22,806	23,213	-1.8
Criminal Justice	58	21,533	20,745	3.8
History	68	23,465	22,715	3.3
Political Science/Government	131	23,063	23,677	-2.6
Psychology	151	20,553	20,688	-0.7
Sociology	63	20,119	20,134	-0.1
Social Sciences-Other	127	21,536	21,627	-0.4
COMPUTER SCIENCES Computer Science	762	30,680	29,804	2.9
Computer Programming	35	27,216	28,223	-3.6
Information Sciences & Systems	200	29,344	28,631	2.5
Systems Analysis	8	27,433	30,556	-10.2

*Not computed for less than 20 offers.

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers*, July 1991

TABLE 1 (Continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY CURRICULUM, JULY 1991 AND SEPTEMBER 1990

CURRICULUM	NUMBER OF OFFERS	AVERAGE $ OFFERS		PERCENT CHANGE IN $ OFFERS
	JULY 1991	JULY 1991	SEPTEMBER 1990	SEPTEMBER 1990
ENGINEERING Aerospace & Aeronautical	123	$30,434	$30,509	-0.2
Agricultural	39	30,878	30,127	2.5
Architectural	50	31,193	28,916	7.9
Bioengineering & Biomedical	9	29,567	30,052	-1.6
Chemical	1,352	37,381	35,122	6.4
Civil	829	29,666	28,136	5.4
Computer	201	32,368	31,490	2.8
Electrical	1,642	33,191	31,778	4.4
Environmental	6	28,983	30,019	-3.6
Industrial	414	32,299	30,525	5.8
Mechanical	1,893	34,007	32,064	6.1
Metallurgical	151	33,400	32,235	3.6
Mining	48	31,504	29,383	7.2
Nuclear	21	32,447	31,750	2.2
Petroleum	181	38,972	35,202	10.7
Engineering Technology	180	29,697	29,318	1.3
Industrial Technology	35	28,645	29,235	-2.0
AGRICULTURE & NATURAL RESOURCES Agribusiness	74	23,145	21,834	6.0
Animal Sciences	29	22,557	19,719	14.4
Plant Sciences	15	20,140	21,176	-5.1
Natural Resources	12	20,588	19,058	8.0
Other Agricultural Sciences	37	24,158	24,411	-1.0
HEALTH SCIENCES Allied Health	155	29,654	27,436	8.1
Health Sciences	41	20,941	20,827	0.5
Nursing	250	30,801	28,270	9.0
Pharmacy	56	39,439	36,728	7.4
SCIENCES Actuarial	26	32,309	28,267	14.3
Architectural & Environmental Design	18	27,578	25,125	9.8
Biological	61	21,457	21,800	-1.6
Chemistry	80	27,108	27,494	-1.4
Geological	27	28,380	23,463	21.0
Mathematics (incl. Statistics)	162	27,978	27,032	3.5
Physics	21	28,530	28,022	1.8
Other Physical & Earth Sciences	7	25,084	21,044	19.2

*Not computed for less than 20 offers.

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers,* July 1991

TABLE 2

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY CURRICULUM AND SEX, JULY 1991 AND SEPTEMBER 1990

CURRICULUM	NUMBER OF OFFERS JULY 1991		AVERAGE $ OFFERS JULY 1991		AVERAGE $ OFFERS SEPTEMBER 1990	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
BUSINESS						
Accounting	1,360	1,414	$26,900	$26,315	$26,510	$26,282
Business Admin. (Incl. Mgmt. Science)	537	429	24,337	22,713	23,885	23,080
Distribution Management	16	2	26,663	34,152	24,419	26,295
Economics & Finance (Incl. Banking)	820	418	26,154	25,441	25,234	25,080
Hotel/Restaurant Management	53	65	21,467	20,850	20,892	20,631
Human Resources (Incl. Labor Rel.)	29	64	24,552	23,846	25,170	21,639
Management Info. Systems	185	137	28,699	28,025	27,617	27,166
Marketing/Marketing Management	547	534	24,103	23,590	23,906	23,141
Real Estate	6	1	21,137	18,500	25,543	22,211
COMMUNICATIONS						
Advertising	19	32	23,389	20,961	22,408	19,520
Communications	78	115	23,306	21,226	21,797	20,411
Journalism	26	77	19,968	20,795	17,459	20,291
Telecomminications Broadcasting	35	17	23,898	22,337	20,859	20,025
EDUCATION						
Elementary Education	33	240	22,102	19,773	20,365	18,734
Pre-Elementary Education	+	30		16,599		17,507
Physical Education	18	11	18,989	19,996	20,389	19,088
Special Education	5	45	24,350	22,210	21,250	20,320
HOME ECONOMICS						
Human Ecology	3	24	23,033	20,925	*	19,383
Textiles & Clothing	5	77	25,260	20,947	22,783	20,537
Merchandising Management	1	43	17,500	21,098	21,066	19,330
HUMANITIES & SOCIAL SCIENCES						
Foreign Languages	11	25	21,463	21,712	25,540	21,774
Letters	35	77	24,459	20,140	23,028	20,801
Visual & Performing Arts	31	32	20,626	18,696	22,783	19,346
Humanities - Other	30	51	24,897	21,576	23,311	23,104
Criminal Justice	35	23	22,849	19,529	21,930	18,714
History	40	28	24,856	21,479	23,364	21,228
Political Science/Government	72	59	23,780	22,188	24,327	22,603
Psychology	52	99	22,522	19,519	21,990	20,033
Sociology	25	38	21,201	19,408	21,611	19,035
Social Sciences - Other	44	83	23,692	20,393	23,820	19,940
COMPUTER SCIENCES						
Computer Science	547	215	30,476	31,199	29,915	29,439
Computer Programming	22	13	27,697	26,402	28,139	28,417
Information Sciences & Systems	108	92	29,115	29,614	28,466	28,847
Systems Analysis	5	3	29,532	23,933	29,443	31,808

*No Historic Data Available

+ No offers reported

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers*, July 1991

TABLE 2 (Continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY CURRICULUM AND SEX, JULY 1991 AND SEPTEMBER 1990

CURRICULUM	NUMBER OF OFFERS JULY 1991		AVERAGE $ OFFERS JULY 1991		AVERAGE $ OFFERS SEPTEMBER 1990	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
ENGINEERING						
Aerospace & Aeronautical	104	19	$30,419	$30,520	$30,446	$30,883
Agricultural	37	2	31,331	22,500	29,786	31,618
Architectural	39	11	31,591	29,783	28,860	29,235
Bioengineering & Biomedial	5	4	31,120	27,625	29,154	30,822
Chemical	860	492	37,314	37,496	35,169	35,013
Civil	634	195	29,536	30,087	28,061	28,504
Computer	158	43	32,268	32,733	31,527	31,303
Electrical	1,353	289	33,145	33,404	31,732	32,009
Environmental	2		29,700	28,625	31,030	24,960
Industrial	278	136	31,928	33,059	30,159	21,169
Mechanical	1,552	341	33,924	34,384	31,998	32,398
Metallurgical	130	21	33,457	33,048	32,239	32,221
Mining	43	5	31,772	29,200	29,777	24,000
Nuclear	12	9	32,596	32,248	31,849	31,167
Petroleum	152	29	38,857	39,575	35,087	26,844
Engineering Technology	155	25	29,622	30,160	29,311	29,412
Industrial Technology	25	10	27,547	31,390	29,584	21,500
AGRICULTURE & NATURAL RESOURCES						
Agribusiness	62	12	23,219	22,766	21,326	23,928
Animal Sciences	15	14	25,303	19,614	20,124	18,409
Plant Sciences	10	5	21,320	19,779	21,186	21,132
Natural Resources	10	2	20,566	20,700	18,889	19,903
Other Agricultural Sciences	31	6	24,317	23,333	24,443	24,292
HEALTH SCIENCES						
Allied Health	27	128	28,766	29,841	31,826	26,937
Health Sciences	5	36	21,500	20,863	20,589	20,878
Nursing	23	227	30,233	30,825	27,915	28,303
Pharmacy	28	28	39,315	39,563	38,626	35,425
SCIENCES						
Actuarial	16	10	34,004	29,598	28,292	28,212
Architectural & Environmental Design	14	4	28,250	25,225	25,489	22,919
Biological	30	31	22,214	20,723	22,670	20,992
Chemistry	46	34	28,297	25,499	27,134	28,111
Geological	18	9	27,081	30,978	25,123	17,098
Mathematics (incl. Statistics)	67	95	28,353	27,714	26,942	27,112
Physics	18	3	28,039	31,473	28,609	31,789
Other Physical & Earth Sciences	4	3	27,697	21,600	22,036	20,051

*No Historic Data Available

+ No offers reported

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers*, July 1991

TABLE 3

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY FUNCTIONAL AREA AND SEX, JULY 1991

FUNCTIONAL AREA (All Types of Employees)	NUMBER OFFERS	AVERAGE $ OFFERS JULY 1991		
	JULY 1991	TOTAL	MEN	WOMEN
ENGINEERING				
Bioengineering	9	$27,622	$31,620	$22,625
Design/Construct	877	30,766	30,879	30,231
Environmental Sanitation	159	30,989	30,260	32,223
Manufacturing/Industrial	980	33,930	33,827	34,238
Systems/Programming	241	32,238	32,542	31,017
Power Systems	233	33,217	33,247	33,045
Software Design & Development	206	32,869	32,904	32,736
Hardware Design & Development	191	33,709	33,481	34,600
Research & Development	328	34,268	33,867	35,157
Testing	145	30,692	30,891	29,373
Process Engineering	1,072	37,658	37,580	37,822
Project Engineering	1,113	34,092	33,988	34,475
Other Engineering	1,480	32,821	32,811	32,858
FINANCE				
Accounting (Public)	2,044	27,158	27,394	26,915
Accounting (Private)	775	25,180	25,660	24,783
Commercial Banking (Consumer)	107	21,970	23,159	21,003
Commercial Banking (Lending)	137	23,780	23,978	23,425
Investment Banking (Corp. Finance)	43	29,041	29,069	28,984
Investment Banking (Mergers & Acquisitions)	5	30,600	32,250	24,000
Investment Banking (Real Estate)	6	21,750	17,500	23,875
Investment Banking (Sales & Trading)	26	24,777	27,676	20,699
Financial/Treasury Analysis	404	27,443	27,983	26,601
Portfolio Management Brokerage	50	25,137	26,841	21,516
Insurance Underwriting	139	24,433	24,961	23,330
Insurance, Claims	113	22,785	23,585	21,971
COMMUNICATIONS				
Design/Graphic Arts	32	20,515	22,196	18,058
Media Planning	17	20,232	21,786	19,144
Reporting	22	18,422	18,784	17,898
Production	55	24,295	26,017	21,898
Public Relations	54	20,463	21,173	20,045
Writing/Editing	38	20,671	20,671	30,671
COMPUTER SCIENCE				
Computer Programming	576	28,799	28,717	28,671
Information Systems	253	29,911	30,121	28,542
Systems Analysis & Design	344	30,178	30,315	29,664

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91*
Beginning Offers, July 1991

TABLE 3 (Continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY FUNCTIONAL AREA AND SEX, JULY 1991

FUNCTINAL AREA (All Types of Employees)	NUMBER OFFERS	AVERAGE $ OFFERS JULY 1991		
	JULY 1991	TOTAL	MEN	WOMEN
HEALTH CARE				
Administrative	28	$23,074	$23,587	$22,934
Industrial Hygiene	5	24,106	23,832	24,175
Medical Technology	44	24,765	27,150	23,871
Nursing/Personal Care	245	30,640	30,435	30,660
Occupational Therapy	38	29,627	36,020	28,875
Pharmacy	57	39,213	39,315	39,114
Physical Therapy	24	29,532	31,667	29,228
Respiratory	5	32,651	34,000	32,314
Other Health-Related	123	26,394	26,926	26,272
MARKETING				
Advertising	43	21,360	23,344	19,932
Brand/Product Management	125	24,443	25,620	22,894
Buyer/Merchandising	303	23,517	24,710	22,818
Distribution	46	26,051	26,813	24,624
Market Research	77	25,448	26,164	24,820
Purchasing	32	27,716	26,844	28,589
Sales	1,080	25,372	25,835	24,540
PUBLIC ADMINISTRATION				
Executive, Legislative & General	32	20,765	23,284	20,060
Finance, Taxation, Monetary Policy	80	22,655	22,417	22,814
Economic Programs	17	21,721	21,103	22,270
Law Enforcement	59	23,076	23,944	20,528
Military	55	23,685	23,759	23,353
National Security1	9	20,956	23,000	19,320
Urban/Regional Planning	10	19,183	19,912	18,090
SOCIAL SERVICES				
Administration	34	20,069	22,120	19,630
Counseling	62	17,107	17,706	16,948
Fundraising/Development	4	17,685	26,000	14,913
Social Work	55	17,470	18,780	17,179
OTHER FUNCTIONAL AREAS				
Actuarial	50	32,220	33,268	31,173
Agricultural/Natural Resources	91	21,863	22,434	20,173
Architecture	10	28,290	29,786	24,800
Consulting	491	29,214	29,638	28,392
Human Resources/Industrial relations	95	23,651	23,243	23,831
Management Trainee	1,354	22,764	23,440	22,071
Mathematician/Statistician	33	23,647	24,837	22,874
Paralegal	25	20,592	19,687	20,821
Research (Nontechnical)	13	22,612	24,900	21,183
Research (Technical)	43	28,678	29,298	27,394
Teaching	523	20,475	21,499	20,180

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers*, July 1991

TABLE 4

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED MASTER'S DEGREE CANDIDATES BY CURRICULUM, JULY 1991 AND SEPTEMBER 1990

CURRICULUM	NUMBER OF OFFERS	AVERAGE $ OFFERS		PERCENT CHANGE IN $ OFFERS
	JULY 1991	JULY 1991	SEPTEMBER 1990	FROM SEPT. 1990
BUSINESS				
Accounting	239	$31,257	$29,647	5.4
MBA-Nontechnical Undergraduate				
1 year or less	362	35,225	36,175	-2.6
1 to 2 years	184	44,328	43,310	2.4
2 to 4 years	300	48,622	45,683	6.4
Over 4 years	407	50,782	45,883	10.7
MBA-Technical Undergraduate				
1 year or less	79	39,402	37,737	4.4
1 to 2 years	71	48,762	48,191	1.2
2 to 4 years	161	52,801	50,355	4.9
Over 4 years	196	53,706	51,452	4.4
MS-Business	39	42,121	34,347	22.6
Economics & Finance	235	41,841	36,812	13.7
Labor Industrial Relations (Incl. Human Resources)	53	38,700	31,487	22.9
Management Information Systems	33	35,820	33,739	6.2
Marketing/Marketing Management	141	43,503	35,440	22.8
EDUCATION				
Education Administration	16	23,926	25,698	-8.1
Elementary Education	29	24,354	22,893	6.4
Physical Education	7	23,286	27,508	-15.3
Reading Education	1	32,944	22,000	+
Special Education	14	23,764	22,798	4.2
HUMANITIES AND SOCIAL SCIENCES				
Foreign Languages	2	16,650	24,350	+
Letters (incl. English Literature)	7	26,026	22,400	16.2
Visual & Performing Arts	5	22,845	25,399	-10.1
Humanities-Other	9	32,760	24,333	34.6
Political Science/Government	1	22,145	*	*
Psychology	12	23,209	24,169	-4.0
Sociology	3	24,267	20,500	+
Social Sciences	13	30,853	26,536	16.3

* No historic data available + Not Computed for fewer than 5 offers ** No reported offers

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers*, July 1991

TABLE 4 (continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED MASTER'S DEGREE CANDIDATES BY CURRICULUM, JULY 1991 AND SEPTEMBER 1990

CURRICULUM	NUMBER OF OFFERS	AVERAGE $ OFFERS		PERCENT CHANGE IN $ OFFERS
	JULY 1991	JULY 1991	SEPTEMBER 1990	FROM SEPT. 1990
COMMUNICATIONS				
Advertising	4	$33,250	$24,000	+
Communications	8	29,320	27,602	6.2
Journalism	2	21,500	24,500	+
ENGINEERING				
Aerospace & Aeronautical	15	35,934	36,114	-0.5
Agricultural	3	30,800	37,700	+
Bioengineering & Biomedical	3	31,150	36,500	+
Chemical	68	40,352	37,862	6.6
Civil	112	34,912	32,366	7.9
Computer	18	39,297	35,748	9.9
Electrical	173	38,658	37,526	3.0
Industrial	32	36,989	35,362	4.6
Mechanical	165	37,856	35,506	3.7
Metallurgical	24	37,917	36,792	3.1
Mining & Mineral	14	35,007	39,626	-20.6
Nuclear	7	38,691	36,728	5.3
Petroleum	31	44,097	38,412	14.8
SCIENCES				
Agricultural & Natural Resources	7	26,671	22,839	16.8
Architectural & Environment Design	1	28,081	26,905	+
Biological	5	24,012	27,279	-12.0
Chemistry	13	34,411	32,320	6.5
Computer Science	137	37,710	36,849	2.3
Geological Sciences (Incl. Geophysics)	34	37,134	33,644	10.4
Mathematics	18	29,206	30,069	-2.9
Physics	3	27,219	31,480	+
Polymer	2	34,980	37,098	+
HEALTH SCIENCES				
Allied Health	9	28,291	25,696	10.1
Health Sciences	17	25,895	20,402	26.9
Nursing	4	55,500	34,900	+

*No historic data available. + Not Computed for fewer than 5 offers.

Source: The College Placement Council, *CPC Salary Survey - A Study of 1990-91 Beginning Offers*, July 1991

TABLE 5

NUMBER AND AVERAGE STARTING SALARY OFFERS TO DOCTORAL DEGREE CANDIDATES BY CURRICULUM, JULY 1991 AND SEPTEMBER 1990

CURRICULUM	Number Offers	Average $ Offers	
	JULY 1991	JULY 1991	September 1990
BUSINESS			
Computer & Information Science	26	$58,458	$54,788
Economics & Finance	2	43,000	44,000
EDUCATION			
Education Administration	11	40,597	44,900
HUMANITIES & SOCIAL SCIENCES			
English	3	36,667	30,340
Psychology	9	45,078	34,154
ENGINEERING			
Aerospace	3	46,027	48,932
Chemical	75	53,114	50,524
Civil	6	41,499	44,481
Computer	5	54,400	50,526
Electrical	29	56,164	53,147
Mechanical	12	46,196	49,887
Metallurgical	18	48,739	47,296
SCIENCES			
Agricultural & Natural Resources	4	43,638	38,912
Biological	6	31,800	32,500
Chemistry	66	48,608	45,356
Geology & Geological Sciences	10	52,184	38,028
Mathematics	6	38,483	42,775
Physics	5	38,860	41,486
Polymer	6	48,417	46,625

*No Historic Data Available

SOURCE: Abbott, Langer & Associates, *College Recruiting Report*, 1990

TABLE 6

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH BACHELOR'S DEGREES BY DISCIPLINE, 1990

DISCIPLINE	Number	Mean	Median
All Engineering	1,286	$2,498	$2,600
Aeronautical Engineering	8	2,422	2,630
Agricultural Engineering	20	1,832	1,721
Biomedical Engineering	7	2,678	2,666
Ceramic Engineering	15	2,721	2,749
Chemical Engineering	121	2,883	2,983
Civil Engineering	158	1,994	1,721
Computer Science (Engineering Related)	123	2,368	2,333
Electrical Engineering	335	2,559	2,665
Electronic Technology	3	2,494	2,642
Engineering Technology	36	2,435	2,488
Industrial Engineering	92	2,497	2,519
Manufacturing Engineering	3	2,471	2,613
Mechanical Engineering	287	2,656	2,672
Metallurgical Engineering	13	2,628	2,645
Biological Sciences	785	1,372	1,358
Chemistry	48	2,019	1,743
Computer Science (Sci./tech.-Related)	271	1,889	1,950
Computer Science (Business- Related)	138	2,250	2,160
Food Science	27	1,458	1,358
Geology	13	1,755	1,721
Industrial Technology	15	2,410	2,360
Mathematics-Statistics	41	2,049	2,250
Mechanical Technology	7	2,521	2,519
Pharmacy (Registered)	457	3,364	3,400
Physics	4	2,353	2,364
Accounting	281	2,027	2,083
Agriculture	233	1,453	1,358
Bus.,Economics & Finance	1,001	1,955	2,008
Education	26	1,527	1,479
Home Economics	17	1,516	1,358
Hotel / Restaurant	129	1,883	1,900
Industrial Management	37	1,827	1,700
Liberal Arts	333	1,872	1,850
Marketing	516	1,981	1,895
Personel/Industrial Relations	93	1,681	1,833
Public Relations	53	1,675	1,700
All Technical (Non-Eng.)	1,760	2,072	1,358
All Non-Technical	3,164	1,895	1,875

SOURCE: Abbott, Langer & Associates, *College Recruiting Report,* 1990

TABLE 7

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH MASTER'S DEGREES (EXCLUDING MBA) BY DISCIPLINE, 1990

DISCIPLINE	Number	Mean	Median
All Engineering	123	$2,767	$2,666
Aeronautical Engineering	5	2,726	2,904
Chemical Engineering	5	3,099	3,084
Civil Engineering	3	2,560	2,513
Electrical Engineering	19	3,033	3,133
Industrial Engineering	7	2,802	2,625
Mechanical Engineering	18	2,575	2,514
Computer Science (Eng. - Related)	50	2,687	2,666
Computer Sci. (Sci. / Tech Related)	27	1,756	1,682
Computer Sci. (Business Related)	12	2,450	2,333
Chemistry	14	1,976	1,833
Accounting	9	2,055	1,850
Business, Economics & Finances	53	2,137	2,208
Law	3	3,755	4,083
Marketing	10	4,561	4,772
Personnel/Industrial Relations	8	2,813	3,250
All Technical (Non-Engineering)	52	1,986	1,833
All Non-Technical	140	2,283	2,204

TABLE 8

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH MBA DEGREES AND UNDERGRADUATE DEGREES BY DISCIPLINE, 1990

DISCIPLINE	Number	Mean	Median
All Engineering	14	$2,701	$2,333
Chemical Engineering	2	4,250	4,250
Electrical Engineering	2	2,992	2,991
Accounting	11	2,664	2,600
Business, Economics & Finance	65	2,781	2,812
Marketing	36	3,926	4,062
All Non-Technical	115	3,129	3,000

SOURCE: Abbott, Langer & Associates, *College Recruiting Report, 1990*

TABLE 9

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH DOCTORAL DEGREES BY DISCIPLINE, 1990

DISCIPLINE	Number	Mean	Median
All Engineering	7	$3,952	$3,850
Chemical Engineering	5	3,933	3,991
Chemistry	15	3,333	3,583
Mathematics / Statistics	2	3,379	3,378
All Technical (Non-Engineering)	73	3,403	3,400

TABLE 10

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH JUNIOR/COMMUNITY COLLEGE DEGREES BY DISCIPLINE, 1990

DISCIPLINE	Number	Mean	Median
All Engineering-Related	122	$1,339	$1,214
Engineering Technology	108	1,267	1,214
Electronic Technology	5	2,453	2,650
Mechanical Technology	9	1,580	1,667
Biological Sciences	1,001	1,214	1,214
Computer Programming	57	1,287	1,214
Data Processing	52	1,231	1,214
Drafting	11	1,644	1,700
Accounting	57	1,231	1,214
All Technical- Related	1,123	1,223	1,214
All Non-Technical - Related	1,845	1,220	1,214
Agriculture	1,251	1,214	1,214
Business Administration	529	1,226	1,214

SOURCE: Abbott, Langer, & Associates, *College Recruiting Report,1990*

TABLE 11

MEDIAN MONTHLY STARTING SALARIES OF INEXPERIENCED BACHELOR'S GRADUATES (NON-ENGINEERING) BY TYPE OF INDUSTRY AND DISCIPLINE, 1990

TYPE OF INDUSTRY	Biological Sciences	Chemistry	Computer Science*	Math./ Stats.	Accounting	Agri- culture	Bus. Econ. & Finance	Computer Science**	Liberal Arts	Marketing	All Tech- nical (Non- Eng'r.)	All Non- Technical
Total	**$1,358**	**$1,743**	**$1,950**	**$2,250**	**$2,083**	**$1,358**	**$2,008**	**$2,166**	**$1,850**	**$1,895**	**$1,358**	**$1,875**
All Manufacturing/ Extractive Firms	1,580	2,375	2,250	2,375	2,085	2,069	2,100	2,450	2,107	2,100	2,360	2,100
All Non-Manufacturing Firms	1,358	1,721	1,358	1,987	1,917	1,358	1,875	2,166	1,833	1,850	1,358	1,850
Banking & Other Financial Firms			2,000	2,140	2,000		1,833	2,060	1,570	1,750	2,000	1,840
Chemical / Pharmaceutical / Plastic Rubber Product Mfg.	2,069	2,375	2,550		2,405	2,069	2,326	2,450		2,150	2,375	2,444
Communications Services			2,336	2,469	2,898		2,302			2,191	2,336	2,302
Computer / Data Processing Services					2,200		1,850	2,166	1,850	1,850		1,850
Construction & Engineering Firms											2,041	1,750
Electrical / Aerospace / Aircraft / Electronics Product Mfg.			2,250	2,250	2,097		2,008	2,614		1,895	2,250	2,100
Fabricated Metal Product Mfg.					1,998		1,905	2,000		2,200	2,190	2,000
Food/Beverage/Tobacco/ Product Mfg.	1,580		2,568	2,367	2,317	2,295	2,160	2,583	2,107	2,175	1,580	2,160
Hospitality Firms					1,700		1,700	1,650	1,600		1,650	1,700
Insurance Firms			1,950	2,667	2,146		2,080	2,085	2,209	2,000	1,962	2,085
Merchandising Firms (Retail) & Wholesale			3,250		1,700	1,833	1,875	1,875	1,875	2,000	3,400	1,875
Petroleum/Natural Gas Firms			2,320		2,083		2,000	2,084		2,000	2,320	2,083
Metals/Minerals- Extracting/Refining					2,125		2,167	1,829		2,075	2,488	2,125
Utilities					2,133		2,100	2,343		2,000		2,133

* Science/Tech.-Related.

** Business Related.

NOTE: Blanks indicate no cases reported.

SOURCE: Abbott, Langer, & Associates, *College Recruiting Report,1990*

TABLE 12

MEDIAN MONTHLY STARTING SALARIES OF INEXPERIENCED BACHELOR'S GRADUATES IN ENGINEERING BY TYPE OF INDUSTRY AND SUBDISCIPLINE, 1990

TYPE OF INDUSTRY	ALL	SUBDISCIPLINE IN ENGINEERING						
		Agri-cultural	Chemical	Civil	Electrical	Industrial	Mechanical	Computer Science*
TOTAL	**$2,600**	**$1,721**	**$2,983**	**$1,721**	**$2,665**	**$2,519**	**$2,672**	**$2,333**
All Mfg./Extractive Firms	2,670	2,556	2,983	2,580	2,680	2,519	2,676	2,614
All Non-Mfg. Firms	2,333	1,721	2,540	1,721	2,634	2,500	2,470	2,333
Chemical / Pharmaceutical / Plastic / Rubber Product Mfg.	2,913		2,983		2,822	2,675	2,833	
Communications Services	2,802				2,802	2,783	2,856	
Computer / Data Processing Services	2,333							2,333
Construction & Engineering Firms	2,340		2,513	2,333	2,484		2,416	
Electrical / Aerospace / Aircraft / Electronics Product Mfg.	2,641			2,680	2,665	2,519	2,676	2,614
Fabricated Metal Product Mfg.	2,400				2,491	2,400	2,400	2,462
Food / Beverage / Tobacco Prod. Mfg.	2,550	2,556	2,600		2,708	2,550	2,506	
Glass & Glass Product Mfg.	2,749		2,708		2,828	2,696	2,672	
Insurance Firms	2,470		2,540	2,290	2,500	1,975	2,470	2,250
Metals/Minerals - Extractive/Refining	2,615		2,670		2,615	2,337	2,585	
Utilities	2,634				2,634		2,625	2,420
Petroleum / Natural Gas-- Extracting / Refining	2,920		3,000		2,911	2,250	2,920	

*Engineering-Related. **Only four respondents. NOTE: Blanks indicate fewer than five cases reported.

SOURCE: The *Northwestern Lindquist Endicott Report, 1991,* Forty-Fifth Annual Report, by Victor R. Lindquist

TABLE 13

NUMBER AND AVERAGE MONTHLY SALARY OFFERS OF ENGINEERING GRADUATES BY SUBDISCIPLINE OF ENGINEERING & DEGREE LEVEL, 1991

SUBDISCIPLINE	BACHELOR'S		MASTER'S		DOCTORATE	
	1991 Projected Hiring	Salary	1991 Projected Hiring	Salary	1991 Projected Hiring	Salary
Aerospace Engineering	196	$2,621		$		$
Chemical Engineering	1,229	3,081	237	3,343	183	4,384
Civil Engineering	219	2,830	28	3,326		
Electrical/Computer Science	3,163	2,833	818	3,267	47	4,457
Industrial Engineering	485	2,707	46	3,161		
Mechanical Engineering	2,600	2,846	274	3,304	28	4,451
Metals/Materials	115	2,845	30	3,276	28	4,289
Nuclear Engineering	36	2,875	73	3,261		
Petroleum Engineering	73	3,271				
Engineering Technology	246	2,616				

TABLE 14

NUMBER AND AVERAGE MONTHLY STARTING SALARIES FOR NEW GRADUATES BY FIELD AND DEGREE, 1990 AND 1991

FIELD	BACHELOR'S DEGREE				MASTER'S DEGREE			
	No. to be hired in 1991	AVERAGE SALARY		Percent Increase	No. to be hired in 1991	AVERAGE SALARY		Percent Increase
		1990	1991			1990	1991	
Engineering (138)	10,017	$2,740	$2,862	4.4%	1,717	$3,150	$3,288	4.4%
Accounting (117)	7,221	2,292	2,365	3.2	700	2,758	2,823	2.3
Sales-Marketing (85)	1,714	2,090	2,247	7.5				
Business Administration (90)	2,398	2,117	2,184	3.1				
Liberal Arts (69)	1,915	2,107	2,176	3.2				
Chemistry (37)	470	2,490	2,591	4.1				
Math or Statistics (36)	386	2,474	2,493	0.8				
Economics or Finance (71)	1,277	2,218	2,305	3.9				
Computer Science (110)	3,212	2,524	2,660	5.4				
Other Fields (54)	1,743	2,693	2,862	6.3	339	3,051	3,054	0.1
MBA with Technical BS					772	3,432	3,508	2.2
MBA with Non-Technical BA					1,501	3,632	3,692	1.6
Other Technical Fields					656	3,071	3,171	3.3

NOTE: Number in parenthesis indicates companies hiring bachelor's level graduates in 1991.

SOURCE: *Recruiting Trends 1990-91,* Michigan State University, December 1990

TABLE 15

ESTIMATED AVERAGE STARTING SALARIES & ESTIMATED % CHANGE FOR BACCALAUREATE GRADUATES BY ACADEMIC MAJOR, 1990-91

ACADEMIC MAJOR	Salary	% Change
Chemical Engineering	$38,114	8.1
Mechanical Engineering	34,715	7.9
Electrical Engineering	34,658	7.5
Computer Science	33,238	8.3
Industrial Engineering	32,784	7.4
Physics	30,504	6.0
Civil Engineering	29,508	7.9
Nursing	29,499	8.3
Chemistry	29,364	6.8
Accounting	27,866	2.8
Financial Administration	25,869	2.2
General Business Administration	24,992	2.8
Geology	24,636	5.0
Marketing/Sales	24,273	3.1
Mathematics	24,168	6.5
Personnel Administration	23,863	3.3
Agriculture	23,486	3.0
Commmunications	22,882	4.7
Social Science	22,610	6.1
Education	21,662	4.9
Liberal Arts/Arts & Letters	21,655	5.8
Hotel, Restaurant & Institutional Management	21,555	3.9
Advertising	21,483	2.3
Telecommunications	20,499	3.0
Retailing	20,360	5.0
Human Ecology/Home Economics	20,202	2.5
Journalism	19,516	2.1
Natural Resources	19,496	2.3
ALL MAJORS **Bachelor's**	**26,458**	**2.8**
Master's	**35,634**	**6.5**
MBA's	**38,563**	**6.6**
Ph.D.'s	**39,591**	**4.0**

SOURCE: *CHEMICAL AND ENGINEERING NEWS*, American Chemical Society, November 5, 1962; October 28, 1963; November 9, 1964; October 18, 1965; October 23, 1967; October 28, 1985; *1979 Survey Report, Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates; & Starting Salaries 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, and 1990*

TABLE 16

MEDIAN MONTHLY STARTING SALARIES FOR MEN AND WOMEN CHEMISTS, BACHELOR'S LEVEL, 1961-1990

YEAR	MEN	WOMEN	% BELOW MEN
1961	$500	$433	13.4
1962	525	450	14.3
1963	550	473	14.0
1964	560	480	14.3
1965	590	499	15.4
1966	625	550	12.0
1967	660	600	10.0
1968	712	625	12.2
1969	750	702	6.4
1970	758	644	15.0
1971	691	650	5.9
1972	708	650	8.2
1973	750	708	5.6
1974	816	833	+ 2.1
1975	833	801	3.8
1976	900	908	+ 0.9
1977	1,000	1,000	0.0
1978	1,042	1,083	+ 3.9
1979	1,200	1,233	+ 2.8
1980	1,250	1,250	0.0
1981	1,417	1,541	+ 8.8
1982	1,417	1,417	0.0
1983	1,417	1,333	5.9
1984	1,583	1,542	2.6
1985	1,667	1,500	10.0
1986	1,583	1,500	5.2
1987	1,683	1,633	3.0
1988	1,875	1,750	6.7
1989	1,917	1,917	0.0
1990	1,917	1,917	0.0

SOURCE: American Chemical Society, *Starting Salaries 1990*

TABLE 17

NUMBER MEDIAN AND MEAN STARTING SALARIES OF INEXPERIENCED CHEMISTS EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED, TYPE OF EMPLOYER AND SEX, 1990

TYPE OF EMPLOYER	MEN			WOMEN		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
PRIVATE INDUSTRY	(166)	(21)	(114)	(152)	(21)	(43)
Median	$24,000	$32,400	$45,000	$25,000	$30,000	$45,000
Mean	24,627	32,191	44,979	25,055	30,821	44,327
COLLEGE OR UNIVERSITY	(10)	(5)	(25)	(14)	(6)	(9)
Median	18,600	20,000	28,000	17,000	25,901	30,000
Mean	17,971	19,800	28,211	17,869	26,584	28,700
HIGH SCHOOL	(7)			(8)		
Median	20,100			21,000		
Mean	19,120			20,400		
FEDERAL GOVERNMENT	(8)	(4)	(5)	(9)		
Median	20,500	26,500	38,300	19,000		
Mean	21,682	27,270	40,480	18,589		
HOSPITAL OR LAB	(14)			(24)		
Median	18,000			19,000		
Mean	18,627			19,821		
STATE OR LOCAL GOVERNMENT	(8)					
Median	22,958					
Mean	22,552					
TOTAL	(220)	(35)	(145)	(215)	(31)	(55)
Median	23,000	30,000	44,500	23,000	30,000	43,750
Mean	23,588	29,145	41,903	23,462	28,464	41,558

NOTE: Blanks indicate insufficient responses.

SOURCE: American Chemical Society, *Starting Salaries 1990*

TABLE 18

MEDIAN AND MEAN ANNUAL STARTING SALARIES OF INEXPERIENCED GRADUATE CHEMISTS BY DEGREE SPECIALTY, 1990

DEGREE SPECIALTY	M. S.		Ph. D.	
	Median	Mean	Median	Mean
Analytical	$31,750	$30,543	$44,000	$42,875
Inorganic	28,000	26,956	44,100	40,642
Organic	32,000	30,088	44,700	42,363
Physical	30,000	27,957	42,000	38,997
Biochemistry	26,000	25,073	35,625	33,938
Polymer			47,610	48,027
General	25,000	27,500		
TOTAL	30,000	28,825	44,000	41,699

NOTE: Blanks indicate too few respondents.

TABLE 19

MEDIAN ANNUAL STARTING SALARIES OF CHEMISTS AND CHEMICAL ENGINEERS BY DEGREE LEVEL AND LENGTH OF WORK EXPERIENCE, 1990

DEGREE LEVEL	LENGTH OF WORK EXPERIENCE			
	<12 Months	12-36 Months	>36 Months	Total
CHEMISTS				
B. S.	$23,000	$25,500	$30,000	$24,500
M. S.	30,000	31,385	37,350	31,500
Ph. D.	44,000	44,000	45,000	44,000
CHEMICAL ENGINEERS				
B. S.	35,220	35,700	35,310	35,400
M. S.	37,200	37,350	43,500	38,000
Ph. D.	50,000	51,000	50,500	50,000

TABLE 20

MEDIAN AND MEAN ANNUAL STARTING SALARIES OF INEXPERIENCED CHEMISTS AND CHEMICAL ENGINEERS EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED AND SEX, 1990

HIGHEST DEGREE EARNED	CHEMISTS				CHEMICAL ENGINEERS			
	Men		Women		Men		Women	
	Median	Mean	Median	Mean	Median	Mean	Median	Mean
Bachelor's	$23,000	$23,588	$23,000	$23,462	$35,400	$34,204	$35,000	$33,879
Master's	30,000	29,145	30,000	28,464	37,000	39,288	38,000	37,713
Doctorate	44,500	41,903	43,750	41,558	50,000	49,017	49,400	49,309

SOURCE: American Chemical Society, *Starting Salaries 1990*

TABLE 21

NUMBER MEDIAN AND MEAN STARTING SALARIES OF INEXPERIENCED CHEMISTS AND CHEMICAL ENGINEERS EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED, AND TYPE OF EMPLOYER, 1990

TYPE OF EMPLOYER	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
PRIVATE INDUSTRY	(318)	(42)	(158)	(482)	(48)	(76)
Median	$24,550	$32,030	$45,000	$35,400	$37,200	$50,000
Mean	24,833	31,505	44,760	34,520	38,869	49,292
COLLEGE OR UNIVERSITY	(24)	(11)	(35)			(6)
Median	17,800	24,000	28,506			48,000
Mean	17,911	23,500	28,172			47,583
HIGH SCHOOL	(15)					
Median	20,200					
Mean	19,809					
FEDERAL GOVERNMENT	(17)	(4)	(6)	(17)		(5)
Median	20,195	26,500	37,650	26,126		50,000
Mean	20,045	27,270	39,567	27,458		48,280
STATE/LOCAL GOVERNMENT	(10)			(5)		
Median	22,958			28,000		
Mean	22,642			25,123		
HOSPITAL OR LAB	(38)	(3)				
Median	18,500	25,000				
Mean	19,369	24,333				
OTHER	(8)			(7)		
Median	23,000			32,000		
Mean	24,471			33,297		
TOTAL	(435)	(66)	(202)	(515)	(51)	(88)
Median	23,000	30,000	44,000	35,340	37,200	50,000
Mean	23,526	28,825	41,699	34,127	38,855	49,055

NOTE: Blanks indicate insufficient responses.

SOURCE: American Chemical Society, *Starting Salaries 1990*

TABLE 22

MEDIAN AND MEAN STARTING SALARIES OF CHEMISTS EMPLOYED FULL-TIME BY HIGHEST DEGREE AND WORK FUNCTION, 1990

WORK FUNCTION	HIGHEST DEGREE		
	B.S.	M.S.	Ph.D.
TEACHING Median	$20,000	$24,000	$29,500
Mean	19,062	25,357	30,336
MANAGEMENT OR ADMINISTRATION Median	25,000	28,050	40,000
Mean	23,946	28,525	41,333
BASIC RESEARCH Median	23,000	27,350	44,050
Mean	23,550	26,437	39,484
APPLIED RESEARCH Median	27,000	31,850	45,000
Mean	25,906	30,994	44,542
PRODUCTION Median	22,500	26,500	42,800
Mean	22,879	27,800	42,872
OTHER Median	21,150	30,500	41,250
Mean	22,734	29,183	41,667
TOTAL **Median**	23,000	30,000	44,000
Mean	23,575	28,792	41,708

SOURCE: American Chemical Society, *Starting Salaries 1990*

TABLE 23

MEDIAN AND MEAN STARTING SALARIES OF CHEMISTS EMPLOYED FULL-TIME BY HIGHEST DEGREE AND GEOGRAPHIC REGION, 1990

GEOGRAPHIC REGION	HIGHEST DEGREE		
	B.S.	M.S.	PH.D.
PACIFIC			
Median	$22,083	$30,000	$44,000
Mean	22,964	28,833	40,902
MOUNTAIN			
Median	20,000		29,000
Mean	21,529		33,760
WEST NORTH CENTRAL			
Median	20,000		44,280
Mean	20,694		40,927
WEST SOUTH CENTRAL			
Median	29,400	27,000	45,000
Mean	26,897	26,125	42,324
EAST NORTH CENTRAL			
Median	23,000	30,000	43,750
Mean	24,076	30,229	41,841
EAST SOUTH CENTRAL			
Median	19,000	24,000	44,100
Mean	19,109	22,779	40,700
MIDDLE ATLANTIC			
Median	25,000	32,600	44,750
Mean	25,209	33,341	43,087
SOUTH ATLANTIC			
Median	21,000	26,000	43,000
Mean	21,689	26,162	41,409
NEW ENGLAND			
Median	25,000	32,900	37,250
Mean	24,781	28,300	38,600
TOTAL			
Median	23,000	30,000	44,000
Mean	23,526	28,863	41,626

NOTE: Blanks indicate insufficient responses.

SOURCE: American Chemical Society, *Starting Salaries 1990*

TABLE 24

COMPARISON OF MEDIAN STARTING SALARIES OF INDUSTRIAL AND ALL CHEMISTS AND CHEMICAL ENGINEERS EMPLOYED FULL-TIME BY DEGREE LEVEL AND SEX, 1990

TYPE OF EMPLOYER	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
ALL EMPLOYERS	$23,000	$30,000	$44,000	$35,220	$37,200	$50,000
Men	23,000	30,000	44,500	35,400	37,000	50,000
Women	23,000	30,000	43,750	35,000	38,000	49,400
INDUSTRIAL EMPLOYERS	24,550	32,030	45,000	35,400	37,200	50,000
Men	24,000	32,400	45,000	35,400	37,000	50,000
Women	25,000	30,000	45,000	35,000	38,000	49,600

TABLE 25

MEDIAN STARTING SALARIES OF CHEMISTS AND CHEMICAL ENGINEERS EMPLOYED FULL-TIME BY DEGREE LEVEL AND TYPE OF INDUSTRY, 1990

TYPE OF INDUSTRY	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
Nonmanufacturing	$22,000	$30,000	$40,000	$34,000	$36,000	$48,000
Basic Chemicals	28,000		45,300	35,500	36,600	50,400
Specialty Chemicals	26,000	28,000	45,000	35,400	37,700	45,900
Petroleum	25,400		47,500	36,550	40,500	50,000
Pharmaceuticals	28,000	32,000	43,500	35,400	36,250	51,000
Plastics	27,000		45,006	35,400	40,000	50,350
Other	24,500	32,760	45,250	34,800	36,494	48,950
TOTAL	24,600	32,000	45,000	35,400	37,200	50,000

NOTE: Blanks indicate insufficient responses.

TABLE 26

MEDIAN STARTING SALARIES OF CHEMISTS AND CHEMICAL ENGINEERS EMPLOYED FULL-TIME BY DEGREE LEVEL AND EMPLOYER SIZE, 1990

NUMBER OF EMPLOYEES	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
Less than 500	$22,000	$30,000	$42,000	$33,000	$35,020	$40,000
500 - 2,499	23,000	30,750	44,000	35,000	37,100	50,250
2,500 - 9,999	28,000	32,550	44,000	35,000	37,250	49,450
10,000 - 24,999	28,000	33,700	46,500	35,800	36,600	50,000
25,000 or More	28,218	33,250	45,600	35,500	37,300	50,000
TOTAL	24,500	32,060	45,000	35,400	37,100	50,000

SOURCE: Robert Half International, *Salary Guide 1991, Accounting, Finance, Information Systems, 1991*

TABLE 27

AVERAGE STARTING SALARY RANGES OF DATA PROCESSING PERSONNEL IN LARGE INSTALLATIONS* BY POSITION, 1990 AND 1991

POSITION	SALARY RANGES		PERCENT INCREASE
	1990	1991	
DATA PROCESSING LARGE INSTALLATIONS			
Vice President, MIS	$79,000-$113,000	$83,000 - $119,000	5.2
MIS Director	65,000-87,000	68,000-91,000	4.6
SYSTEMS & PROGRAMMING			
Senior Manager	58,000-77,000	60,000-80,000	3.7
Manager	52,000-65,000	54,000-68,000	4.3
Senior Project Manager	48,000-62,000	51,000-66,000	6.4
Project Manager	44,000-56,000	46,000-59,000	5.0
Senior Project Leader	42,000-53,000	44,000-56,000	5.3
Project Leader	39,500-50,000	41,000-52,000	3.9
Systems Analyst	35,500-45,500	37,000-48,000	4.9
Programmer Analyst	30,500-40,000	32,000-42,000	5.0
Programmer	25,500-33,000	27,000-34,000	4.3
TECHNICAL SERVICES			
Manager	50,000-65,500	52,000-68,000	3.9
Systems Programmer	40,000-53,500	41,000-55,000	2.7
CASE Tool Specialist	38,000-53,000	43,000-60,000	13.2
DATA BASE SUPPORT			
Data Dase Manager	53,500-67,500	56,000-71,000	5.0
Data Base Administrator	43,000-54,000	45,000-56,000	4.1
Data Base Analyst	36,500-47,500	38,000-50,000	4.8
TELECOMMUNICATIONS			
Manager	50,000-64,500	53,000-68,000	5.7
Telecommunications Specialist	38,000-52,000	40,000-55,000	5.6
OPERATIONS			
Senior Manager	44,500-58,500	47,000-62,000	5.8
Manager	38,000-48,000	39,000-50,000	3.5
Shift Supervisor	29,000-37,000	31,000-39,000	6.1
Operator	20,000-28,000	21,000-29,000	4.2
Input/Output Clerk	17,000-22,000	18,000-23,000	5.1
Data Entry	14,500-18,000	15,000-19,000	4.6
EDP AUDIT			
Manager	45,000-59,000	47,000-61,000	3.8
Senior	36,000-46,000	38,000-48,000	4.9
Staff	28,000-36,500	29,000-38,000	3.9

*Employs over 25 d.p. professionals.

SOURCE: Robert Half International, Inc., *Salary Guide 1991 - Accounting, Finance, Information Systems, 1991*

TABLE 28

AVERAGE STARTING SALARY RANGES OF DATA PROCESSING PERSONNEL IN OCCUPATIONS NOT DIRECTLY RELATED TO INSTALLATION SIZE BY JOB POSITION, 1990 AND 1991

JOB POSITION	SALARY RANGES 1990	SALARY RANGES 1991	PERCENT INCREASE
CONSULTING			
Manager	$51,500-$70,500	$53,000-$73,000	3.3
Senior	41,500-55,500	44,000-58,000	5.2
Associate	32,000-44,000	34,000-47,000	6.6
EDP EDUCATION			
Manager	39,000-51,000	41,000-53,000	4.4
Curriculum Developer	30,500-40,000	32,000-42,000	5.0
Instructor	27,000-37,500	28,000-39,000	3.9
SOFTWARE DEVELOPMENT			
Product Manager	49,000-73,000	51,000-76,000	4.1
Software Engineer	36,000-50,000	38,000-53,000	5.8
Artificial Intelligence Specialist	36,000-65,000	38,000-68,000	5.0
PERSONAL COMPUTERS (PCs)			
Systems Developer	30,000-45,000	31,000-47,000	4.0
LAN/WAN Specialist	32,000-45,000	36,000-51,000	13.0

TABLE 29

AVERAGE STARTING SALARY RANGES OF DATA PROCESSING PERSONNEL IN SMALL* INSTALLATIONS BY POSITION, 1990 AND 1991

POSITION	SALARY RANGES 1990	SALARY RANGES 1991	PERCENT INCREASE
ADMINISTRATION			
MIS Director	$43,500-$61,000	$46,000-$64,000	5.3
SYSTEMS & PROGRAMMING			
Manager	39,000-53,000	41,000-55,000	4.3
Project Manager	36,000-46,000	38,000-48,000	4.9
Project Leader	33,000-42,000	35,000-44,000	5.3
Systems Analyst	30,000-38,500	31,000-40,000	3.6
Programmer Analyst	26,000-35,000	27,000-37,000	4.9
Programmer	21,500-29,000	23,000-31,000	6.9
OPERATIONS			
Manager	27,000-36,000	28,000-38,000	4.8
Operator	17,000-23,500	18,000-25,000	6.2
Input/Output Clerk	15,000-19,000	16,000-20,000	5.9
Data Entry	13,500-17,000	14,000-18,000	4.9

* Employing fewer than 25 d.p. professionals.

SOURCE: American Mathematical Society, *NOTICES*, Vol. 37, No. 9, November 1990

TABLE 30

MEDIAN BEGINNING SALARIES IN MATHEMATICS FOR PH. D'S BY TYPE OF EMPLOYER OR ACTIVITY AND SEX, 1989 AND 1990

TYPE OF EMPLOYER	MEN		WOMEN	
	1989	1990	1989	1990
Teaching or Teaching & Research (9 Months)	$30,500	$32,000	$31,000	$32,500
Teaching or Teaching & Research (12 Months)	31,500	36,000	31,400	38,300
Research (9 Months)	27,000	30,000		
Research (12 Months)	30,000	30,000	35,000	36,500
Business & Industry (12 Months)	46,400	47,000	49,000	50,000
Government (12 Months)	37,800	37,500		37,800

NOTE: Blanks indicate that not enough returns were received to warrent including the figures.

TABLE 31

MEDIAN BEGINNING SALARIES IN MATHEMATICS FOR NEW PH.D.'S BY TYPE OF EMPLOYER, 1984-1990

TYPE OF EMPLOYER	1984	1985	1987	1988	1989	1990
Teaching or Teaching & Research (9 Months)	$23,000	$25,000	$28,000	$29,300	$31,000	$32,000
Research (9 Months)	20,500	23,500	30,000	28,000	27,000	30,000
Teaching or Teaching & Research (12 Months)	26,000	27,300	31,500	33,000	31,500	36,500
Research (12 Months)	26,100	34,200	28,700	29,500	31,700	30,000
Business & Industry (12 Months)	37,800	40,000	45,100	44,000	46,400	49,500
Government (12 Months)	31,500	32,500	36,000	34,300	37,800	37,800

SOURCE: American Institute of Physics, *1989-90 Survey of Physics and Astronomy Bachelor's Degree Recipients,* AIP Pub. R-211.22, April 1991.

TABLE 32

DISTRIBUTION AND MEDIAN MONTHLY STARTING SALARIES OF PHYSICS BACHELOR'S DEGREE RECIPIENTS BY TYPE OF EMPLOYER AND SEX, 1989

TYPE OF EMPLOYER	MEN (447Reported Salaries)		WOMEN (81 Reported Salaries)		TOTAL (498 Reported Salaries)	
	% Distribution by Employer	Median	% Distribution by Employer	Median	% Distribution by Employer	Median
Industry - Mfg.	28%	$2,420	25%	$2,510	27%	$2,475
Industry - Service	17	2,170	23	2,000	18	2,165
High School	6	2,220	14	2,100	8	2,110
College or University	5	1,780	5		5	1,720
Government, Civilian	10	2,190	19	2,100	12	2,190
Government, Military	29	1,830	7	1,750	26	1,830
FFRC*	3	2,680	2		2	2,580
Other	2	1,875	5	1,770	2	1,875
Total	100%	2,080	100%	2,110	100%	2,085

* Federally Funded Research Center.

NOTE: Blanks indicate insufficient data.

SOURCE: American Institute of Physics, *1988-89 Graduate Student, Survey*, September 1990

TABLE 33

MEDIAN MONTHLY STARTING SALARIES OF NEW PHYSICS GRADUATES BY DEGREE LEVEL AND TYPE OF EMPLOYER, 1989

TYPE OF EMPLOYER	BACHELOR'S	MASTER'S	PH. D.	
			Postdocs	Permanent Position
Secondary School	$1,570	$2,350	$	$
Four-Year College				2,450
University	1,670		2,280	2,750
Industry	2,250	2,670	3,500	4,060
FFRC**		2,425	2,510	3,700
Government, Including Military	1,770	2,300	2,680	3,200
Other			2,250	2,400
ALL EMPLOYERS	1,960	2,600	2,310	3,540

** Federally Funded Research Centers. Blanks indicate insufficient data

SOURCE: American Geological Institute, *Geoscientific Employment and Hiring Survey, 1990.*

TABLE 34

STARTING SALARIES OF INEXPERIENCED GEOLOGISTS BY TYPE OF EMPLOYER AND DEGREE LEVEL, 1990

TYPE OF EMPLOYER	DEGREE LEVEL		
	BA/BS	MA/MS	Ph. D.
Domestic Oil and Gas Industry	$32,500	$37,250	$43,750
Domestic Mining and Minerals Industry	26,667	31,875	35,833
Federal Government	22,500	24,167	28,125
State Government	21,500	26,029	31,042
Research Institutions	20,000	30,000	36,250
DOE-Funded National Laboratories	27,500	36,667	42,500
Geoscientific Consulting Firms	21,250	24,167	40,000
Academia	19,688	22,727	31,622

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, *1990 Participant Report - National Compensation Survey of Research and Development Scientists and Engineers*, May 1990

TABLE 35

NUMBER MEDIAN AND MEAN MONTHLY STARTING SALARIES OF 1989 AND 1990 GRADUATES EMPLOYED IN NONSUPERVISORY POSITIONS IN RESEARCH & DEVELOPMENT BY FIELD OF HIGHEST DEGREE

FIELD OF DEGREE	Number	Median	Mean
Engineering	491	$2,504	$2,383
Chemistry	50	1,880	1,990
Physics	7	2,574	2,701
Other Physical Sciences	10	2,436	2,501
Life Sciences - Health & Related	11	2,361	2,426
Life Sciences - Other	26	2,184	1,983
Mathematics & Statistics	11	2,426	2,660
Computer Science	116	2,351	2,440

TABLE 36

NUMBER, MEDIAN AND MEAN MONTHLY STARTING SALARIES OF 1989 AND 1990 BACHELOR'S DEGREE GRADUATES ENPLOYED IN NONSUPERVISORY POSITIONS IN RESEARCH AND DEVELOPMENT BY WORKING - AS - OCCUPATION

WORKING - AS - OCCUPATION	Number	Median	Mean
Aeronautical/Astronautical Engineering	45	$2,401	$2,360
Chemical Engineering	81	2,752	2,588
Civil Engineering	19	1,643	1,757
Electrical & Electronic Engineering	151	2,484	2,401
Environmental Engineering/Science	7	2,526	2,621
Materials Engineering	7	2,576	2,547
Mechanical Engineering	100	2,022	2,135
Nuclear & Reactor Engineering	70	2,620	2,448
Physics	6	2,684	2,698
Chemistry	53	1,941	2,017
Atmospheric/Earth/Marine/Space Sciences	14	2,518	2,466
Biological Science	21	1,926	1,976
Biomedical Specialties	10	2,371	2,435
Mathematics	7	2,376	2,415
Computer Science	116	2,351	2,427
Optics/Lasers	6	2,851	3,026

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U. S. Membership Salary and Fringe Benefit Survey*, 1991, UH0185-9.

TABLE 37

1991 MEDIAN STARTING SALARIES OF IEEE ENGINEERS BY YEARS OF EXPERIENCE AND COMPANY SIZE

YEARS OF EXPERIENCE	EMPLOYEES IN COMPANY			
	1-500	501-10,000	10,000 +	Federal/State Government
0-1	$32,300	$34,000	$35,500	$32,000
2	32,500	36,100	37,000	33,300
3	38,000	39,000	39,100	35,900
4	40,000	43,000	41,600	39,500
5	41,000	46,200	43,200	40,600

TABLE 38

1991 MEDIAN STARTING SALARIES OF IEEE ENGINEERS BY HIGHEST DEGREE AND YEARS OF EXPERIENCE

YEARS OF EXPERIENCE	HIGHEST DEGREE		
	Bachelors	Masters	Ph. D.
0-1	$32,500	$38,000	$52,600
2	34,300	40,000	57,000
3	36,000	42,000	58,000
4	39,000	44,300	59,500
5	41,000	46,800	57,000

SOURCE: American Political Science Association, *1989-90 APSA Survey of Departments, 1990*

TABLE 39

BEGINNING MEDIAN SALARIES FOR NEW FACULTY MEMBERS IN POLITICAL SCIENCE BY TYPE OF DEPARTMENT AND DEGREE LEVEL, 1989 - 90

TYPE OF DEPARTMENT		WITH PH. D	WITHOUT PH. D
ALL DEPARTMENTS	(697)	$28,000	$25,000
Ph. D Departments 21 or More Faculty	(69)	30,500	29,000
Ph. D Departments 20 or Less Faculty	(40)	29,000	28,500
Masters Departments 11 or More Faculty	(63)	27,500	24,000
Masters Departments 10 or Less Faculty	(74)	27,500	25,516
Undergraduate Political Science Departments, Public Institutions	(70)	27,950	25,000
Undergraduate Political Science Departments, Private Institutions	(185)	27,250	25,000
Undergraduate Social Science and Combined Departments	(181)	25,000	23,500

SOURCE: U.S. Department of Labor, *Occupational Outlook Handbook*, 1990-91 Edition, and College Placement Council, *CPC Salary Survey - A Study of 1988-89 Beginning Offers.*

TABLE 40

STARTING SALARIES OF SCIENTISTS BY OCCUPATION, TYPE OF EMPLOYER AND HIGHEST DEGREE ATTAINED, 1989

OCCUPATION	ESTIMATED NUMBER EMPLOYED IN 1988	TYPE OF EMPLOYER					
		1989 Private Industry			1989 Federal Government		
		B.S.	M.S.	Ph. D.	B.S.	M.S.	Ph. D.
Engineers*	1,411,000	$29,200	$34,600	$46,600	$	$	$
Mathematicians	16,000	26,800	31,500	37,500	15,800-19,500	23,100-28,900	28,900-34,600
Statisticians	15,000	26,800			15,200-19,500	23,800-28,900	28,900-34,600
Agricultural Scientists	25,000		23,600		15,700-19,500	19,500-23,850	28,900-34,500
Biological Scientists	57,000	21,000	25,100		15,700-19,500	19,500-23,850	28,350-34,600
Foresters & Conservationists	27,000				15,700	23,800	28,900-34,600
Geologists & Geophysists	42,000	23,700	30,500	34,100	15,700-19,500	19,500-23,850	28,900-34,600
Meteorologists	6,200				15,700-19,500	19,500-23,850	28,900-34,600
Chemists	80,000	26,700	32,200	43,200	15,700-19,500	23,850	28,900-34,600
Physicists(1)	18,000	28,300	30,000	42,600	15,700-19,500	19,500-23,850	28,900-34,600
Accountants & Auditors	963,000	25,300	28,900		15,700-19,500	23,900	
Psychologists	104,000	19,100	23,700	33,600	15,700-19,500	23,800	28,900-34,600
Economists	36,000	24,600	34,700		15,800-19,500	23,800	28,900-34,600
Social Scientists	194,000	20,200	23,100		15,700-19,500	23,800	34,600
Social Workers	385,000		22,200+				
Sociologists	3,000	19,000	24,300		15,800-19400	23,900	28,900-34,600
Computer Programmers	519,000	28,700			15,700		
Computer Systems Analysts/Scientists	403,000	28,600	35,800	50,000	15,700		

+ Salary in Hospital & Medical Centers in 1988. (1) Number include Astronomers.

Note: Number does not include faculty.

SOURCE: Cooperative Education Research Program, *1990 Midwest Cooperative Education Student Employee Salary & Benefits Survey*, Feburary, 1991.

TABLE 41

AVERAGE AND MEDIAN MONTHLY SALARIES PAID TO NEW COOPERATIVE EDUCATION BACHELOR'S GRADUATES IN THE MIDWEST** BY CURRICULUM, 1990

CURRICULUM	Average* Salary	Median Salary
BUSINESS		
All Business	$2,007	$2,049
Accounting	1,990	2,058
Banking & Finance	2,031	2,087
Management	1,918	1,917
Management Information Systems	2,145	2,188
Marketing	1,974	2,000
HUMANITIES & SOCIAL SCIENCES		
All Humanities & Social Sciences	1,603	1,490
Humanities	1,562	1,481
Social Sciences	1,645	1,500
SCIENCES		
All Sciences	2,262	2,333
Agriculture	2,199	2,433
Biological	2,431	2,500
Computer Science	2,203	2,288
Chemistry	2,305	2,369
Mathematics	2,265	2,271
Physics	2,419	2,433
ENGINEERING		
All Engineering	2,513	2,550
Chemical	2,695	2,750
Civil	2,313	2,260
Electrical, Electronic & Computer	2,577	2,625
Industrial	2,495	2,592
Mechanical	2,542	2,583
Engineering Technology	2,275	2,333
OTHER		
Architecture	1,821	1,718
Economics	2,066	2,087
Nursing & Allied Health	1,908	1,990
Criminal Justice	1,745	1,672

*Prior work experience not considered

**Includes Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio & Wisconsin.

SALARIES OF EXPERIENCED SCIENTIFIC AND TECHNICAL PERSONNEL

During the 1980s, three subsystems comprised the **National Science Foundation's Scientific and Technical Personnel Data** - the **Survey of Doctorate Recipients**, the **New Entrants Survey** and the **Experienced Sample Survey.**

Surveys of doctoral scientists and engineers are conducted by the **National Research Council** on a sample of individuals drawn from a roster of doctoral recipients. The roster is compiled from a number of sources, including the **Doctorate Records File**, which is maintained by the **National Academy of Sciences/National Research Council**; the **National Science Foundation's National Register of Scientific and Technical Personnel**, which from 1954 through 1970 collected information on highly qualified scientists; American Men and Women of Science; and several other sources including university and college catalogues of doctorate-granting institutions, federal laboratories; and selected industrial organizations. The 1989 survey population consists of individuals who earned doctorates within the 42-year period from January 1, 1946 to June 30, 1988. Included in this population are individuals whose doctorates are in the natural or social sciences, mathematics, and engineering, as well as individuals who received research doctorates in non-S/E fields but were known to be employed as scientists or engineers.

The 1989 **Survey of Doctorate Recipients** is the ninth in a biennial series first conducted in 1973, and is derived from a sample of scientists and engineers. Data from this survey will be published by the **National Science Foundation** in **CHARACTERISTICS OF DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES: 1989.**

The median annual salary for all doctoral scientists and engineers in 1989 was $54,600, up 10.1% from 1987 and 21.9% from 1985, **(Table 49)**. However, salaries varied considerably by field and a number of other variables. Overall, the top salary went to engineers - $62,500, followed by physicists/astronomers at $58,600. At the other end of the scale, sociologists/anthropologists reported the lowest salary - $45,800. In the beginning stages of their careers, doctorates in computer science earned more than those in engineering. However, by the fifth year of professional experience, or by age 40, engineers had overtaken computer scientists and held a salary advantage through the remainder of their careers (Tables 42 and 43). This was true regardless of sex. As shown in **Tables 44** and **51**, regardless of field or years of professional experience, male doctorates in science and engineering earned more than females. Overall, male PhDs in science and engineering earn 25% more than did female PhDs - $56,000 compared to $44,800.

Those doctoral scientists and engineers working in business and industry received the highest salaries - $61,500, while those working in state and local governments received the lowest - $42,800. Salaries of doctorates by type of employer ranged from a high of $76,300 for self-employed engineers working in business/industry to a low of $37,500 for chemists working in state and local government, **(Table 45)**. By subfield of engineering, systems design engineering doctorates reported the highest salary - $68,500 - while civil engineering doctorates reported the lowest - $58,300. By type of employer, the highest salary was reported by electrical/electronic engineering PhDs working in business and industry - $70,500 - **(Table 46)**. **Table 47** shows median annual salaries of doctoral scientists and engineers employed in business and industry by field from 1985 through 1989. During that period, overall salaries for S/E PhDs employed in business and industry have risen 18.3%.

Teaching, the dominant work activity of doctoral scientists, continues to provide the lowest salary. In 1989, the median annual salary of PhD scientists and engineers who reported teaching as their primary work activity was $48,400 - 34% less than the $72,800 earned by PhDs reporting management of R&D as their principal work activity **(Table 48)**.

By geographic area, doctoral scientists and engineers working in the Pacific region reported the highest median salaries - $58,100, while those working in the West North Central reported the lowest - $48,900. Engineers working in the New England region reported the highest salary - $65,600 - while sociologists/anthropologists working in the West South Central reported the lowest - $38,700 **(Table 50)**.

Overall women doctorates in science and engineering earned 25% less than men. This is a somewhat discouraging figure since the salary gap has widened from 20% for the 1985-1987 period. The largest percentage difference was in the medical sciences where women PhDs earned 26% less than did men. **Table 52** show that regardless of type of employer, or type of work activity, women doctoral scientists and engineers earn considerably less than their male counterparts. Generally, white PhDs earned more than minority PhDs and women earned less than minorities. By citizenship, native-born U.S. citizens with doctorates earned less than those who were naturalized U.S. citizens, but non-U.S. citizens working in the U.S. earned the least, regardless of field (**Table 51**).

The **New Entrants Survey** provides data on recent bachelor's and master's degree recipients in science and engineering fields who have entered the labor force. The 1988 survey of 1986 and 1987 bachelor's and master's degree graduates finds that women already earn less than their male colleagues one to two years after receipt of their degree. In all science and engineering fields in 1988, women bachelor's degree graduates of 1986 and 1987 had a median annual salary $5,000 (18.5%) below the $27,000 median reported by men. However, this differential is narrowing. In the 1986 survey, women baccalaureate graduates had a median annual salary $7,000 or 25.9% below that of men baccalaureate graduates. Additionally, in the fields of engineering and environmental sciences, median annual salaries for men and women were the same (**Table 53**). A similar salary differential exists at the master's level between men and women. However, although women baccalaureates in environmental science reported the same salary as men, at the master's level, their salary was 18.7% below that of men. Among master's degree chemists, women earned the same as men (**Table 54**). As was true at the doctoral level, both bachelor's and master's degree scientists and engineers employed in business and industry reported the highest salaries, while bachelor's graduates working in educational institutions and master's degree graduates working in state and local governments reported the lowest salaries (**Table 55**). Both bachelor's and master's graduates working in teaching reported the lowest annual salaries, while bachelor's graduates engaged in research and development and master's graduates working in management reported the highest salaries (**Table 56**). Median annual salaries in 1988 by racial/ethnic group for both bachelor's and master's degree graduates are shown in Table 57.

The fifth edition of **COMPENSATION AND BENEFITS IN RESEARCH AND DEVELOPMENT**, reporting on a survey conducted by **Abbott, Langer & Associates** and sponsored by the **Society of Research Administrators**, provides data on both base salary and total cash compensation of 15 professional positions and three technician positions in 244 participating organizations. By job position, those with training in medicine/osteopathy working as research and development directors reported the highest median annual salary - $93,926. Salaries of scientists and engineers working in research and development by job position and discipline are shown in **Table 58**). Where a R&D scientist or engineer is employed has an effect on salary. R&D specialists working in the San Antonio area reported the highest median annual salaries - $100,000 - while those working in Oklahoma City reported the lowest - $20,160 (**Table 59**). By state, those R&D specialists working in Massachusetts earned the highest median salaries - $72,800 - while those working in Oklahoma earned the least - $21,200 (**Table 60**). Overall, R&D specialists working in the Midwestern states reported the highest salaries - $42,731, while those working in the Southwestern states reported the lowest - $24,000 (**Table 61**).

As expected, the more experienced R&D scientists and engineers reported higher salaries regardless of job position, although in later working life, salaries did begin to drop (**Table 62**). Research and development specialists working in educational institutions reported the lowest median salaries - $25,704, while those working in contract research centers reported the highest - $43,800 (**Table 63**). **Table 64** presents annual salaries by work function and job position, while **Table 65** shows the effect of level of education on salary by job position.

The fourth annual **NATIONAL COMPENSATION SURVEY OF RESEARCH AND DEVELOPMENT SCIENTISTS AND ENGINEERS**, conducted by **The Hay Group, Washington, DC** for the **U.S. Department of Energy** continues a series conducted for 18 years by the Battelle Columbus Laboratories. The 1990 survey report covers 104 establishments and provides data on nearly 41,000 researchers throughout the United States. By working-as-occupation, baccalaureates working in the "catch-all 'other engineering" category reported the highest average monthly salary - $4,343, followed closely by baccalaureates working in mathematics - $4,330; at the master's level, those working in mathematics earned the most - $4,911 per month; and doctorates working in "other engineering" had the highest average monthly salary - $5,401, followed closely by those working in electrical/electronic engineering - $5,373. At the low end of the salary scale were baccalaureates in the agricultural sciences, and master's and doctorates in the biological sciences (**Tables 66, 67** and **68**). **Table 71** summarizes the monthly salary of R&D scientists and engineers by working-as-occupation for all three degree levels.

Those R&D scientists and engineers with baccalaureates working in contract research centers reported the highest average monthly salaries - $3,767, while those with master's degrees earned the most working in nonprofit establishments, and those with the PhD earned most working in industry (**Table 69**).

By highest degree level, physicists at the bachelor's and master's level reported the highest average salaries working in R&D in 1990, while computer scientists had the highest average salary at the doctoral level (**Table 70**).

By geographic region, R&D scientists and engineers working in the Southwest reported the highest salaries at all three degree levels (Table 72). By type of industry, R&D scientists and engineers working in petroleum reported the highest salaries at the bachelor's and master's level, while doctorates earned the most working in aerospace (Table 73).

The annual profile of scientists and engineers working in research and development by **RESEARCH & DEVELOPMENT** Magazine finds that there is both good and bad news to report about the compensation of U.S. researchers. The good news is that in 1990 despite rising health insurance costs and a looming recession, 88.8% of the employees earned salary increases; but the bad news is that many of the raises were small, and take-home pay often was eroded by higher employee contributions for benefits. As shown in **Table 74**, the big winners in 1990 included mathematicians, 8.3% of whom got raises of at least 14% for salary of $56,666 in 1991, and aeronautical engineers who had the highest median salary - $58,333. At the low end of the scale for 1991, were industrial engineers at $43,636, a drop of over 6% over the previous year's salary.

The research and development scientist or engineer with a doctoral degree can expect a career income advantage in excess of $2 million over a 35-year career, over his R&D colleague who did not go beyond the baccalaureate level. The spread in average PhD-over-BS career earnings represents an increase from 1980's figure of more than 9.3% compounded annually - well ahead of the rate of inflation in the U.S. The median salary of a PhD was $57,138, compared to $44,744 for a baccalaureate R&D scientist or engineer (**Table 75**).

Although the percentage of women in R&D has almost doubled over the past decade, from 4.9% in 1980 to 6.3% in 1973, to 6.2% in 1986, women still receive less salary than their male colleagues, regardless of type of employer. Although some of the disparity can be attributed to the fact that women do not have as much experience as men, tend to concentrate more in the biological sciences than in the high-paying engineering fields and work in academic institutions as opposed to industry, there is still sex discrimination in R&D salaries as shown in **Table 76**).

The **U. S. Department of Labor's** 31st annual survey of **WHITE-COLLAR PAY: PRIVATE GOODS-PRODUCING INDUSTRIES, MARCH 1990**, previously called the **NATIONAL SURVEY OF PROFESSIONAL, ADMINISTRATIVE, TECHNICAL, AND CLERICAL PAY** provides nationwide data for 28 occupations spanning 111 work-level categories. Information was collected from establishments employing 50 or more workers throughout the United States, except Alaska and Hawaii. Approximately 74,000 establishments within the scope of the survey employed about 16.4 million workers - 32% in professional, administrative, technical and clerical occupations on full-time schedules. Average salaries in March 1990 of engineers, (the largest professional group studied, accounting for 77% of the total 615,045), ranged from $31,412 for college graduates in trainee positions to $93,514 for those responsible for highly complex engineering programs. Chemists' salaries ranged from $28,798 to $85,676, while salaries for computer programmers varied from $27,861 to 34,425 depending upon level of responsibility (**Table 77**).

SALARIES 1990, the annual survey of salaries and employment of its members by the **American Chemical Society**, reports that median salaries as of March 1, 1990 were up 5% over 1989 at all three degree levels, while median salaries for chemical engineers at all degree levels were up less than 4% for the third year in a row. Median salaries of chemists and chemical engineers from 1973 through 1990 by level of degree are shown in **Table 78**.

Further analysis of the **ACS 1990 Survey of Salaries and Employment** is reported in **Women Chemists 1990**. The report contains detailed information not only about salaries and employment status, but also about the perceptions of chemists about their pay, opportunities for advancement, job satisfaction, working conditions and challenges. Women chemists continue to earn less than their male colleagues. In part, this is because women, as a group, have less experience. Nearly half the men chemists working in industry received their bachelor's degrees 20 or more years ago; only about one fifth of the women did so. But even adjusting the salaries to account for this difference, the averages for women's salaries are still only roughly 80 to 90 percent of those of men, a differential that has not changed significantly over the past seven years or so. **Table 79** shows that the salary gap between men and women is small for those with less experience, but widens markedly as their careers lengthen, regardless of degree level.

Regardless of type of employer or degree level, women chemists report lower salaries than do men (**Table 80**). Another part of the reason for the salary disparity between the sexes lies in differences in the type of work or the levels of responsibility between men and women. In industry, men chemists are twice as likely as women to hold management positions, the jobs for which salaries tend to be highest, (**Table 81**). The salary differential between the sexes exists regardless of work function as is shown in **Table 82**.

Salaries of chemists employed in industry vary by chemical specialty and type of industry. Overall, those B.S. chemists employed in physical chemistry report the highest salary, while master's level clinical chemists and doctoral level general chemists report the highest median salaries (**Table 83**). Although the major chemical specialty for both men and women baccalaureate chemists is analytical chemistry (37% of the women and 31% of the men), women still lag behind in the salary scale in this field. Women's salaries at the B.S. level are still nearly 16% below their male colleagues. The salary gap occurs at all degree levels and in all work specialties, **Table 84**.

Salaries of industrial chemists vary from industry to industry as shown in **Table 85**. Salaries tend to be higher in the basic chemicals, petroleum and rubber industries, regardless of degree level. Women industrial chemists are more likely than men to be employed in the pharmaceutical industry and in nonmanufacturing, and are less likely than men to be employed in the specialty chemicals industry. However, regardless of type of industry, women earn less than men (**Table 86**). **Table 87** reports salaries by number of subordinates. Not unexpectedly, the higher the number of subordinates, the higher then salary for all three degree levels. **Table 88** shows that the number of subordinates has a much greater influence for men than for women. At the baccalaureate level, women hit a plateau in salary with 10 subordinates, while men's salary continues to rise with the number of subordinates. Those chemists with supervisory responsibilities report higher salaries than those who do not have supervisory status as shown in **Table 89**.

Salaries also differ by geographic region. The median salary of PhDs in industry ranged from a high of $61,000 in the Pacific and Middle Atlantic regions to a low of $55,700 in the Mountain region (**Table 90**). Geographical differences by metropolitan area and selected states are shown in **Tables 91** and **92**.

The **1990 ANNUAL AMS-MAA SURVEY of New Doctorates** by the **American Mathematical Society** and the **Mathematical Association of America** reports that after one year of experience, women PhDs in mathematics reported higher salaries than did men regardless of type of employment (**Table 93**).

Average salaries of geologists follow the usual pattern - the higher the degree and the more experience, the higher the salary. However, as reported by the **American Geological Institute** in **GEOTIMES** from statistics compiled by **MLA Resources** for the **American Association of Petroleum Geologists**, master's level geologists with 20 or more years of experience reported the highest salary - $94,000 (**Table 94**).

SALARIES IN PSYCHOLOGY 1989 is the sixth in a series of reports issued by the **American Psychological Association**. A total of 5,766 (5,176 of whom were PhDs) respondents provided data for the analysis. Not surprisingly, psychologists in independent practice report higher salaries than do those who are employed in faculty positions, regardless of metropolitan area. The highest median salary was reported by those psychologists in independent practice working in the Atlanta Metropolitan area - $76,000 (**Table 95**). Doctoral-level psychologists working in the Middle Atlantic and Pacific areas generally reported higher salaries than did those working elsewhere, regardless of type of position (**Table 96**). Salaries of Ph.D. psychologists by type of position and years of work experience are shown in **Table 97**. Further information on psychologists is presented in the section on faculty salaries.

Information on the salaries of members of the ten member societies of the **American Institute of Physics** are collected and published biennially. **1990 SALARIES: Society Membership Survey**, the seventh in a series, reports that the median annual salary for all society members reached $54,000 in 1990, while those with a PhD reported a median salary of $58,000. Physicists employed in industry command the highest salaries regardless of degree or experience level, while those employed in academia earned the least (**Tables 98** and **99**). 1990 salaries of industrial PhD physicists showed little variation by primary work activity, regardless of how long they had been working (**Table 100**) .

By geographic region, those doctoral physicists working in the Pacific states report the highest median salaries - $61,300, while those working in the West North Central earn the least (**Table 102**). Highest median salaries were reported by PhD physicists working in industry in the New England region and the Pacific region - $70,000 (**Table 101**). By state, the highest median salary was reported by physicists working in New Jersey ($66,000), followed by those working in either New Mexico or California - $65,000. Physicists working in South Carolina reported the lowest median salary - $40,000 (**Table 103**). Salaries of PhD physicists by years since the PhD are shown in **Table 104**.

Women comprise only a small proportion of the physics workforce and earn less than their male colleagues regardless of years of experience or employment setting. For example, women PhD physicists working in industry 0-4 years since the PhS earned 10.9% less than their male colleagues with similar qualifications. They were of the same age (**Table 105**).

Salaries vary widely among information systems and data processing personnel and are a function of several factors, according to the eighth annual survey of 622 organizations reported in **COMPENSATION IN THE MIS/DP FIELD** by **Abbott, Langer & Associates** and sponsored by **Data Processing Management Association**. Median salaries ranged from a high of $57,000 for Systems Analysis/Applications Programming managers to a low of $16,678 for intermediate data entry operators. Average and median salary and total compensation are reported for 54 MIS/dp positions in **Table 102**.

A number of factors affect salaries paid to MIS/dp personnel. Although industry pays the highest salaries, some jobs pay more in manufacturing organizations, while others command higher salaries in non-manufacturing organizations. Educational institutions continue to pay the lowest salaries (**Table 107**). Other factors influencing salary are level of education (**Table 108**), length of experience (**Table 109**), and geographic area (**Table 110**). In general, the more education, the more experience and working in the Northeastern or Pacific regions increases salary levels.

The **Association of Data Processing Services Organization** (**ADAPSO**) and **Mercer Meidinger Hansen** report salaries of selected data processing personnel in the **ADAPSO COMPENSATION SURVEY RESULTS 1990**. The 1990 report presents results from 96 companies (not including divisions and subsidiaries) is divided into two sections: Executive Management (covering 24 job positions and 666 individuals) and Middle Management,-Professional and Technical (covering 46 job positions and encompassing 38,129 employees). Overall, the total compensation of mid-level management employees increased an average 5.7% in 1990, while technical personnel in systems and programming jobs experienced a 6.5% increase during the year. Salaries vary by level of responsibility and geographic area. For example, lead operating systems/software programmer/analysts report the highest salaries in the Northwest and Rocky Mountain areas, and the lowest in the Midwest (**Table 111**), while senior software development programmer/analysts also report the highest salaries in the Northwest and Rocky Mountain areas, but the lowest in the Southeast (**Table 112**). Technical writers had the highest median salaries at the senior and intermediate levels in the Northeast, while customer service representatives at those levels of responsibility reported higher salaries in the California and Hawaii (**Tables 113 and 114**). Customer support technicians reported the highest salaries working in the Northeast regardless of level of responsibility (**Table 115**) while applications programmer/analysts reported higher salaries in California and Hawaii regardless of level of responsibility (**Table 116**). **Table 117** presents median salaries for a variety of data processing jobs by geographic area. Overall, salaries ranged from a high of $64,700 for operating systems/software programming analysis managers to a low of $15,500 for intermediate data entry operators. Type of service has an effect on salaries paid to data processing personnel as is shown in **Table 118**.

Salaries increased an average 5.6% during 1990 - the same as in 1989, according to the results of **DATAMATION'S** annual **Salary Survey**, which reports salaries for 100 dp positions. The survey noted that the job market for these professionals is "soft," with many companies downsizing. There is some demand, but the job descriptions are highly specific and quite often require expertise in several technologies. Often, knowledge of an industry or of one or more business functions is required. Although not many computer professionals face unemployment, they are doing jobs that are less mobile because of the softening demand. The sluggishness extends across all companies, including the **Fortune 500** companies and banking institutions. As shown in other surveys of data processing personnel, what you do and where you work has an important influence on salary. **Table 119** presents average salaries by type of industry and job position for 1989. Salaries range from a high of $110,000 paid to corporate vice presidents in consumer manufacturing companies to a low of $13,000 earned by data entry operators working in the banking industry. Geographic region is a big influence on salaries paid to data processing personnel. Of the geographic regions noted in **Table 120**, salaries ranged from a high of $101,000 for corporate vice presidents on the east coast to a low of $14,776 for a PC evaluator in the Southeast.

The eleventh annual edition of **COMPENSATION IN THE ACCOUNTING/FINANCIAL FIELD** by **Abbott, Langer & Associates** reports data from 246 organizations for accounting/financial personnel by a number of variables.

Overall, non-supervisory accountants/auditors had a median salary of $26,940 compared to $37,000 for supervisory accountants/auditors. **Table 121** presents salaries by type of organization and type of position. Median salaries ranged from a high of $94,000 for accounting/auditing managers working in petroleum/natural gas industry to a low of $20,050 for junior accountants working in banking and other financial organizations. Salaries of accounting personnel are influenced by the area where they work. **Table 122** presents salaries by metropolitan area, **Table 123** by selected state, and **Table 124** by geographic region. Generally, salaries are higher in the Northeastern and Pacific states. Level of education has an effect on salary. Accounting/financial personnel with an MBA degree report higher salaries regardless of type of position as shown in **Table 125**.

Median weekly earnings of managerial and professional workers reached $599 in the second quarter of 1990, according to data from the **U. S. Department of Labor Bureau of Labor Statistics**. However, there was a wide disparity between the sexes. Men reported weekly earnings of $717 - 29.2% higher than the $507 reported by women. This same wage disparity is seen regardless of type of occupation (**Table 126**).

The median weekly earnings of full-time wage and salary workers by sex in selected occupations is collected annually and reported by the **Bureau of Labor Statistics**. **Table 127** reports salaries for workers in science, engineering and related fields by sex for 1990. In the engineering fields, women come closest to matching the salary of men in civil engineering, earning 92.9% of what men do, while in the natural sciences, women's salary surpassed men's in the physics, astronomy and atmospheric science category, although there were very few female workers in this group, which may distort the figures. Overall, in the professional specialty occupations, women earned only 73.1% of what men did.

SOURCE: National Science Foundation, *Characteristics*

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MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND EN

FIELD	TOTAL	YE		
		1 or Less	2-4	5-9
ALL FIELDS	$54,600	$38,800	$40,900	$47,50
PHYSICAL SCIENTIST	56,000	40,600	44,000	48,90
Chemist	55,000	41,300	43,900	48,80
Physicist / Astronomer	58,600	37,900	44,500	49,20
MATHEMATICAL SCIENTIST	51,600	35,100	37,000	42,50
Mathematician	51,600	31,600	36,600	41,80
Statistician	51,500		40,500	47,30
COMPUTER / INFO. SPECIALIST	58,500	51,600	53,700	53,40
ENVIRONMENTAL SCIENTIST	55,100	34,300	38,100	46,50
Earth Scientist	55,700	34,000	36,100	48,10
Oceanographer	50,600		39,500	45,40
Atmospheric Scientist	53,300		40,600	42,80
ENGINEER	62,500	48,400	49,300	55,60
LIFE SCIENTIST	50,700	35,400	37,000	43,10
Biological Scientist	50,200	33,200	34,900	41,40
Agricultural Scientist	48,700	34,100	37,100	42,50
Medical Scientist	55,300	36,600	40,000	48,90
PSYCHOLOGIST	50,100	34,000	37,100	45,80
SOCIAL SCIENTIST	50,400	36,300	37,200	43,50
Economist	58,100	41,200	46,200	48,90
Sociologist / Anthropologist	45,800	32,000	33,100	37,90
Other Social Scientist	48,600	36,000	35,900	42,70

NOTE: All median salaries were computed for full-time employed civilians. Blanks indicat

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GINEERS BY FIELD AND YEARS OF PROFESSIONAL EXPERIENCE, 1989

ARS OF PROFESSIONAL EXPERIENCE							
	10-14	15-19	20-24	25-29	30-34	35-39	No Report
0	$52,900	$59,900	$63,100	$67,000	$69,900	$74,800	$52,500
0	55,700	60,300	62,200	66,200	68,400	70,500	55,200
0	55,400	59,300	62,100	63,100	65,800	70,500	60,000
0	56,700	60,800	62,400	69,800	70,400	69,900	50,700
0	50,400	53,500	60,200	61,700	73,000	79,100	55,000
0	50,000	53,900	58,800	61,400	70,600	75,800	55,100
0	50,800	53,200	67,700	64,900			
0	57,700	63,300	61,100	76,200	74,700		51,900
0	55,100	61,400	63,000	70,600	74,500	83,300	
0	55,900	60,500	31,600	70,200	75,200	84,900	
0	51,300	60,200	62,800				
0	50,800	66,600	71,000				
0	62,500	68,600	72,900	75,000	75,400	80,100	55,800
0	50,300	55,400	60,700	63,300	66,200	73,600	53,900
0	48,800	54,000	60,200	60,900	63,700	72,400	50,400
0	47,400	51,200	56,100	60,700	65,500	70,700	
0	53,900	65,500	70,800	75,900	76,900	85,700	65,700
0	50,300	52,300	58,100	59,700	67,000	66,300	45,500
0	49,700	55,700	61,700	63,800	37,300	74,700	48,700
0	60,000	62,100	67,600	67,500	67,800	83,800	
0	45,400	50,500	54,700	56,100	66,800		
0	48,600	53,400	63,000	63,600	64,900	72,900	50,000

e no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1989.*

TABLE 43

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND AGE, 1989

FIELD	Total	Under 30	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
ALL FIELDS	**$54,600**	**$45,100**	**$43,000**	**$47,400**	**$52,700**	**$58,500**	**$60,900**	**$62,000**	**$62,200**	**$66,300**
PHYSICAL SCIENTIST	**56,000**	**42,800**	**45,400**	**50,600**	**55,900**	**60,500**	**62,000**	**63,800**	**65,500**	**65,900**
Chemist	55,000	42,900	45,200	50,700	55,100	60,600	60,700	62,000	64,900	65,400
Physicist/Astronomer	58,600	42,200	46,000	50,400	58,300	60,200	65,200	66,100	69,300	68,000
MATHEMATICAL SCIENTIST	**51,600**		**39,300**	**44,400**	**50,800**	**52,000**	**58,100**	**61,100**	**63,100**	**68,600**
Mathematician	51,600		38,500	44,700	50,800	52,300	56,500	61,000	61,900	66,800
Statistician	51,500		45,000	42,500	50,800	51,700	59,800	61,800		
COMPUTER / INFO. SPECIALIST	**58,500**	**53,800**	**54,000**	**57,800**	**58,300**	**60,300**	**57,600**	**67,300**	**69,500**	
ENVIRONMENTAL SCIENTIST	**55,100**		**38,700**	**43,500**	**54,000**	**58,600**	**63,400**	**65,600**	**65,100**	**60,800**
Earth Scientist	55,700		36,900	44,600	55,900	57,900	63,800	62,400	65,300	70,800
Oceanographer	50,600		39,200	43,200	50,000	54,400	65,500			
Atmospheric Scientist	53,300			42,600	48,600	67,500	60,200			
ENGINEER	**62,500**	**48,100**	**50,600**	**55,500**	**62,700**	**69,600**	**70,400**	**70,900**	**67,700**	**75,400**
LIFE SCIENTIST	**50,700**	**32,200**	**36,500**	**42,700**	**49,700**	**54,700**	**58,300**	**60,100**	**61,400**	**63,800**
Biological Scientist	50,200		37,200	42,500	48,300	53,900	57,200	58,300	60,900	60,500
Agricultural Scientist	48,700		36,500	40,900	47,100	51,700	55,200	56,000	61,500	69,000
Medical Scientist	55,300		35,700	45,300	52,600	60,000	66,300	67,000	65,300	72,900
PSYCHOLOGIST	**50,100**	**35,600**	**37,200**	**45,100**	**49,600**	**52,700**	**54,000**	**56,500**	**58,000**	**61,200**
SOCIAL SCIENTIST	**50,400**		**42,000**	**41,700**	**46,200**	**53,400**	**54,600**	**55,400**	**58,700**	**66,300**
Economist	58,100		48,200	48,200	56,400	62,300	64,000	63,000	60,400	77,000
Sociologist / Anthropologist	45,800		33,200	36,200	42,300	48,800	50,000	49,700	55,300	61,700
Other Social Scientist	48,600		34,900	40,800	45,200	52,000	55,200	54,100	59,100	64,700

NOTE: Median salaries computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1989*.

TABLE 44

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD, SEX, AND YEARS OF PROFESSIONAL EXPERIENCE, 1989

FIELD	YEARS OF PROFESSIONAL EXPERIENCE															
	1 or Less		2-4		5-9		10-14		15-19		20-24		25-29		Total	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
ALL FIELDS	$40,400	$35,500	$42,800	$37,200	$48,900	$42,700	$54,800	$48,000	$60,400	$51,600	$63,700	$55,200	$67,300	$58,300	$56,000	$44,800
PHYSICAL SCIENTIST	40,600	39,900	45,000	43,000	49,500	46,600	56,300	50,500	60,500	50,800	62,500	52,200	66,500	54,500	57,100	47,500
Chemist	41,100	41,800	45,000	43,300	49,400	46,100	55,800	50,100	60,200	50,500	62,500	50,800	63,800	53,600	55,900	46,900
Physicist / Astronomer	40,200		45,000	39,700	49,500	48,200	57,100	51,900	60,900	55,000	62,400	64,000	69,800		59,100	48,700
MATHEMATICAL SCIENTIST			37,000	37,100	42,800	39,600	50,800	47,100	53,700	51,300	60,500	54,100	61,900	53,800	52,200	45,200
Mathematician			36,600	36,600	42,100	38,400	50,600	45,600	54,200	50,800	59,400	53,500	61,900	51,200	52,400	42,800
Statistician					47,500	44,700		50,400	53,300		67,700				51,700	48,300
COMPUTER / INFO. SPECIALIST	53,500	48,300	55,400	45,100	54,800	49,900	58,800	51,100	63,600	56,500	61,200	48,000	76,200		60,100	50,000
ENVIRONMENTAL SCIENTIST	34,800	31,000	39,000	35,900	48,000	40,900	55,100	56,300	61,800	56,600	63,300	56,100	70,600		55,600	42,500
Earth Scientist	35,200	31,000	36,700	35,400	48,600	40,700	55,800	56,800	60,700	51,000	61,600		70,200		57,000	42,500
Oceanographer					48,600	40,700	49,900		60,500		62,700				50,900	45,000
Atmospheric Scientist					42,900		50,800		67,000						53,600	51,100
LIFE SCIENTIST	34,600	35,700	37,100	36,900	43,700	41,700	50,900	46,200	56,000	50,400	60,900	54,500	64,200	58,100	53,200	43,100
Biological Scientist	32,900	33,400	35,600	33,200	42,300	38,500	50,300	45,100	54,800	48,700	60,500	52,500	61,600	56,500	52,000	42,500
Agricultural Scientist			37,200	36,700	42,600	41,500	47,800	44,700	51,200	51,500	56,000		60,700		49,800	40,400
Medical Scientist	36,100	38,000	41,600	39,000	51,400	45,800	56,600	48,000	67,500	53,800	72,200	59,700	76,700		60,800	45,000
PSYCHOLOGIST	32,900	34,500	38,400	35,900	47,500	43,100	50,600	48,500	52,700	50,700	59,000	55,500	60,300	56,500	51,300	44,300
SOCIAL SCIENTIST	36,800	34,000	38,800	35,200	45,300	40,600	50,500	46,400	56,200	52,900	61,900	58,600	63,700	64,500	52,000	44,200
Economist			46,800	44,600	50,200	47,500	60,800	46,800	62,100	60,800	68,000	55,300	67,500		59,400	47,500
Sociologist / Anthropologist			33,200	33,000	39,300	36,100	45,900	45,000	48,600	54,500	54,700	54,100		74,200	47,600	41,400
Other Social Scientist	36,500	31,000	36,600	34,800	44,900	40,600	48,800	48,000	54,100	50,900	63,000	61,900	63,800	55,700	50,400	42,500
ENGINEERS	48,500	47,700	49,400	48,500	55,700	53,800	62,500	61,600	68,600	65,100	72,900	62,200	75,000		62,800	53,400

NOTE: All median salaries were computed for full-time employed civilians. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1989.*

TABLE 45

MEDIAN ANNUAL SALARIES OF EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND TYPE OF EMPLOYER, 1989

FIELD	TOTAL*	EDUCATION		BUSINESS & INDUSTRY			GOVERNMENT		NON-PROFIT**
		Total	4-Year Colleges/ Universities	Total	Not Self-Employed	Self-Employed	Federal Civilian	State Local	
ALL FIELDS	**$54,600**	**$50,900**	**$51,200**	**$61,500**	**$60,900**	**$70,400**	**$53,900**	**$42,800**	**$48,000**
PHYSICAL SCIENTISTS	**56,000**	**52,100**	**52,600**	**60,300**	**60,200**	**75,800**	**54,400**	**38,000**	**55,400**
Chemists	55,000	48,200	48,600	60,000	60,000	75,100	51,000	37,500	52,600
Physicists/Astronomers	58,600	55,800	56,400	60,900	60,800		59,000		55,900
MATHEMATICAL SCIENTISTS	**51,600**	**50,800**	**51,200**	**60,100**	**59,100**		**53,300**		**55,500**
Mathematicians	51,600	50,400	51,100	60,700	60,400		54,600		
Statisticians	51,500	51,400	51,400	54,500	54,500		47,000		
COMPUTER / INFO. SPECIALISTS	**58,500**	**55,100**	**55,300**	**60,900**	**60,900**	**60,900**	**54,600**	**43,500**	**60,000**
ENVIRONMENTAL SCIENTISTS	**55,100**	**50,600**	**50,700**	**63,300**	**63,600**	**60,100**	**55,900**	**40,700**	**50,800**
Earth Scientists	55,700	50,500	50,600	63,700	63,900	60,000	55,900	40,500	55,800
Oceanographers	50,600	52,000	52,000	51,500	51,900		52,800		42,600
Atmospheric Scientists	53,300	48,000	48,000	59,500	57,400		59,600		
ENGINEERS	**62,500**	**61,500**	**61,600**	**64,800**	**64,400**	**76,300**	**58,700**	**49,800**	**69,100**
LIFE SCIENTISTS	**50,700**	**48,800**	**49,000**	**58,800**	**58,000**	**70,600**	**50,600**	**40,900**	**49,100**
Biologial Scientists	50,200	48,200	48,500	56,500	56,700	50,500	50,300	39,500	46,500
Agricultural Scientists	48,700	46,900	46,600	50,500	50,700	42,200	50,000	38,200	45,700
Medical Scientists	55,300	51,500	51,500	70,000	65,900	85,700	53,200	47,000	52,200
PSYCHOLOGISTS	**50,100**	**47,100**	**46,800**	**67,800**	**60,300**	**70,600**	**50,100**	**42,800**	**42,100**
SOCIAL SCIENTISTS	**50,400**	**48,700**	**48,800**	**65,100**	**66,900**	**50,600**	**57,900**	**45,100**	**47,500**
Economists	58,100	54,400	54,700	70,900	75,000		61,000		56,700
Soc./Anthropologists	45,800	45,900	46,200	50,200	50,200				38,000
Other Social Scientists	48,600	47,900	47,900	55,700	63,000	50,700	53,800	45,000	45,700

NOTE: Median salaries computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

*Total includes individuals in "other" and "no response" ** includes hospitals and clinics

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the U.S., 1989

TABLE 46

MEDIAN ANNUAL SALARIES OF EMPLOYED DOCTORAL ENGINEERS BY SUBFIELD OF ENGINEERING AND TYPE OF EMPLOYER, 1989.

FIELD	TOTAL		BUSINESS & INDUSTRY		EDUCATIONAL INSTITUTIONS		FEDERAL GOVERNMENT	
	Number	Median Salary	Number	Median Salary	Number	Median Salary	Number	Median Salary
ENGINEERS	74,783	$62,500	41,959	$64,800	25,122	$61,500	4,546	$58,700
Aeronautical/ Astronautical	63,367	60,800	4,116	60,500	1,258	63,500	715	55,100
Chemical	7,959	62,700	5,411	64,200	2,152	58,300	246	
Civil	6,951	58,300	2,426	60,200	3,667	59,400	432	56,700
Electrical/ Electronic	15,088	67,100	8,780	70,500	4,829	64,400	950	62,200
Materials Science	8,280	61,700	5,526	60,800	2,007	63,800	473	62,100
Mechanical	7,390	60,700	3,129	60,800	3,597	60,000	364	50,000
Nuclear	2,437	65,800	1,395	65,500	680	68,000	89	
Systems Design	3,896	68,500	2,269	67,500	1,133	67,800	195	
Other	16,415	61,500	8,907	64,700	5,799	59,300	1,082	57,700

NOTE: Median salaries computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 29 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U. S., 1989.*

TABLE 47

NUMBER AND MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED IN BUSINESS AND INDUSTRY BY FIELD, 1985-1989

FIELD	1985				1987				1989			
	No.	%	% of total employed	Median annual salary	No.	%	% of total employed	Median annual salary	No.	%	% of total employed	Median annual salary
ALL FIELDS	125,767	100.0	31.4	$52,000	131,699	100.0	31.4	$57,400	145,148	100.0	32.4	$61,500
Men	112,822	89.7	33.0	52,800	115,817	87.9	32.9	58,900		86.6	33.8	63,100
Women	12,945	10.3	22.1	42,400	15,822	12.1	23.8	47,700		13.4	25.3	52,400
PHYSICAL SCIENTISTS	**30,281**	**24.1**	**44.9**	**51,100**	**30,741**	**23.3**	**44.8**	**55,600**	**32,042**	**22.1**	**45.6**	**60,300**
Chemists	24,067	19.1	55.0	50,800	24,091	18.3	54.6	55,200	25,799	17.8	56.5	60,000
Phys./Astronomers	6,214	4.9	26.2	53,800	6,650	5.0	27.1	57,200	62,243	4.3	25.4	60,900
MATHEMATICAL SCIENTISTS	**1,911**	**1.5**	**11.4**	**50,200**	**1,838**	**1.4**	**11.0**	**58,000**	**2,105**	**1.5**	**12.0**	**60,100**
Mathematicians	1,393	1.1	10.0	51,200	1,362	1.0	9.8	58,100	1,685	1.2	11.3	60,700
Statisticians	518	0.4	18.5	43,900	476	0.4	16.9	55,500	420	0.3	15.3	54,500
COMPUTER/INFO.SPECIALISTS	**8,351**	**6.6**	**55.8**	**48,700**	**11,383**	**8.6**	**61.3**	**57,500**	**11,483**	**7.9**	**58.0**	**60,900**
ENVIRONMENTAL SCIENTISTS	**5,254**	**4.2**	**30.4**	**54,400**	**5,168**	**3.9**	**29.0**	**56,600**	**6,266**	**4.3**	**31.7**	**63,300**
Earth Scientists	4,769	3.8	36.1	54,900	4,693	3.6	34.6	58,100	5,628	3.9	37.2	63,700
Oceanographers	162	0.1	8.3	40,600	198	0.2	9.7	50,900	285	0.2	11.6	51,500
Atmpospheric Scientists	323	0.3	15.2	52,900	277	0.2	12.6	48,300	353	0.2	16.1	59,500
ENGINEERS	**37,858**	**30.1**	**57.5**	**55,200**	**37,147**	**28.2**	**54.8**	**60,300**	**41,959**	**28.9**	**56.1**	**64,800**
LIFE SCIENTISTS	**19,165**	**15.2**	**18.8**	**49,200**	**20,455**	**15.5**	**19.0**	**51,700**	**23,572**	**16.2**	**20.3**	**58,800**
Biological Scientists	9,337	7.4	15.6	47,300	9,716	7.4	15.7	50,400	11,446	7.9	17.0	56,500
Agricultural Scientists	4,004	3.2	25.8	44,100	3,882	2.9	24.6	45,000	4,220	2.9	25.6	50,500
Medical Scientists	5,824	4.6	22.0	56,100	6,857	5.2	23.2	60,600	7,906	5.4	24.6	70,000
PSYCHOLOGISTS	**15,530**	**12.3**	**29.8**	**50,500**	**17,381**	**13.2**	**30.8**	**60,100**	**19,899**	**13.7**	**32.8**	**67,800**
SOCIAL SCIENTISTS	**7,417**	**5.9**	**11.6**	**50,600**	**7,586**	**5.8**	**11.5**	**55,800**	**7,822**	**5.4**	**11.2**	**65,100**
Economists	3,043	2.4	17.0	56,300	2,819	2.1	15.8	65,400	2,606	1.8	14.0	70,900
Social /Anthropologists	1,069	0.8	8.4	45,000	1,216	0.9	9.4	41,200	1,240	0.9	9.2	50,200
Other Social Scientists	3,305	2.6	9.9	45,800	3,551	2.7	10.0	50,900	3,976	2.7	10.5	55,700

Note: Percents may not add to 100 because of rounding. Median salaries computed for full-time civilians only. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1989.*

TABLE 48

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND PRIMARY WORK ACTIVITY, 1989

FIELD	TOTAL	RESEARCH & DEVELOPMENT				MANAGEMENT OR ADMIN.			Teaching	Con-sulting	Pro-fessional Activities	Other/No Report
		Total	Basic Research	Applied Research	Develop-ment	Total	Of R&D	Other than R&D				
ALL FIELDS	$54,600	$54,500	$51,900	$54,600	$59,300	$66,800	$72,800	$60,500	$48,400	$60,800	$50,800	$53,400
PHYSICAL SCIENTIST	56,000	55,200	54,300	55,600	54,000	74,400	75,300	70,100	48,200	72,300	59,800	56,000
Chemist	55,000	53,600	51,400	54,500	53,400	72,800	75,200	66,300	45,900	72,400		54,500
Physicist / Astronomer	58,600	57,700	56,900	58,500	55,900	75,100	75,600	74,400	51,000			59,100
MATHEMATICAL SCIENTIST	51,600	59,500	59,000	59,600		60,900	63,500	60,800	48,500	55,300		51,800
Mathematician	51,600	60,000	60,100	59,200		61,800	65,800	61,200	48,100	58,600		51,800
Statistician	51,500	52,000	51,300						50,800			51,300
COMPUTER / INFO. SPECIALIST	58,500	60,300	62,700	63,000	58,200	70,700	77,200	61,200	53,100	65,600		52,300
ENVIRONMENTAL SCIENTIST	55,100	53,700	52,100	54,100	58,500	63,500	65,200	60,600	48,200	62,700		51,600
Earth Scientist	55,700	55,400	55,000	55,500		65,000	66,400	60,400	48,100	62,900		55,600
Oceanographer	50,600	50,300	51,600	48,200		60,100	58,400		48,600			
Atmospheric Scientist	53,300	50,600	48,800	48,900		70,000	70,400		47,900			
ENGINEER	62,500	60,000	56,600	59,100	60,500	75,800	75,800	75,800	59,400	62,700		65,400
LIFE SCIENTIST	50,700	50,000	49,000	50,000	55,500	63,200	67,100	57,700	45,900	50,300	59,800	47,100
Biological Scientist	50,200	50,100	48,700	50,900	55,100	62,500	68,400	55,300	45,200	50,200	52,500	47,400
Agricultural Scientist	48,700	45,500	48,300	45,200	50,100	62,300	63,100	59,700	48,200	45,500		43,100
Medical Scientist	55,300	54,000	51,500	54,300	70,800	64,700	72,200	58,700	48,000	65,200	60,500	50,400
PSYCHOLOGIST	50,100	48,900	50,000	48,500		54,700	65,000	52,900	46,000	52,900	50,500	51,700
SOCIAL SCIENTIST	50,400	51,600	51,300	51,700		59,400	62,100	58,800	47,000	70,500	45,800	50,700
Economist	58,100	55,000	53,900	55,200		72,000	75,500	70,500	52,800	70,900		60,900
Sociologist / Anthropologist	45,800	50,000	51,800	46,000		54,200		54,200	44,300			39,300
Other Social Scientist	48,600	48,900	47,900	51,000		55,500	57,400	55,400	45,700	55,800	42,200	50,000

NOTE: All median salaries were computed for full-time employed civilians. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1989.*

TABLE 49

NUMBER AND MEDIAN ANNUAL SALARIES OF EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD, 1985-1989

FIELD	1985			1987			1989		
	Number	%	Median Annual Salary	Number	%	Median Annual Salary	Number	%	Median Annual Salary
ALL FIELDS	**400,358**	**100.0%**	**$44,800**	**419,118**	**100.0%**	**$49,600**	**448,643**	**100.0**	**$54,600**
PHYSICAL SCIENTISTS	**67,480**	**16.9**	**47,000**	**68,647**	**16.4**	**51,400**	**70,209**	**15.6**	**56,000**
Chemists	43,735	10.9	46,000	44,136	10.5	50,500	45,649	10.2	55,000
Physicists/Astronomers	23,745	5.9	48,400	24,511	5.8	53,400	24,560	5.5	58,600
MATHEMATICAL SCIENTISTS	**16,758**	**4.2**	**42,100**	**16,699**	**4.0**	**46,600**	**17,611**	**3.9**	**51,600**
Mathematicians	13,957	3.7	41,800	13,878	3.3	46,600	14,867	3.3	51,600
Statisticians	2,801	0.7	43,700	2,821	0.7	46,700	2,744	0.6	51,500
COMPUTER / INFO. SPECIALISTS	**14,964**	**3.7**	**46,000**	**18,571**	**4.4**	**54,400**	**19,797**	**4.4**	**58,500**
ENVIRONMENTAL SCIENTISTS	**17,288**	**4.3**	**46,600**	**17,811**	**4.2**	**50,300**	**19,787**	**4.4**	**55,100**
Earth Scientists	13,202	3.3	47,500	13,577	3.2	50,800	15,138	3.4	55,700
Oceanographers	1,959	0.5	42,300	2,037	0.5	44,300	2,460	0.5	50,600
Atmospheric Scientists	2,127	0.5	47,300	2,197	0.5	50,000	2,189	0.5	53,300
ENGINEERS	**65,853**	**16.4**	**52,400**	**67,400**	**16.2**	**58,100**	**74,783**	**16.7**	**62,500**
LIFE SCIENTISTS	**101,838**	**25.4**	**41,700**	**107,378**	**25.6**	**45,700**	**115,833**	**25.8**	**50,700**
Biologial Scientists	59,871	15.0	40,500	61,985	14.8	44,500	67,250	15.0	50,200
Agricultural Scientists	15,513	3.9	41,200	15,796	3.8	44,300	16,054	3.6	48,700
Medical Scientists	26,454	6.6	45,900	29,597	7.1	50,400	32,079	7.2	55,300
PSYCHOLOGISTS	**52,182**	**13.0**	**39,500**	**56,378**	**13.5**	**44,300**	**60,596**	**13.5**	**50,100**
SOCIAL SCIENTISTS	**63,995**	**16.0**	**40,500**	**65,866**	**15.7**	**45,300**	**70,027**	**15.6**	**50,400**
Economists	17,925	4.5	46,100	17,837	4.3	50,800	18,588	4.1	58,100
Soc./Anthropologists	12,692	3.2	37,200	12,933	3.1	41,700	13,529	3.0	45,800
Other Social Scientists	33,378	8.3	38,300	35,096	8.4	44,100	37,910	8.5	48,000

NOTE: Percents may not add to 100 because of rounding. Median salaries computed for full-time employed civilians only.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1989*.

TABLE 50

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND GEOGRAPHIC AREA, 1989

FIELD	Total	New England	Middle Atlantic	E. North Central	W. North Central	South Atlantic	E. South Central	W. South Central	Mountain	Pacific
ALL FIELDS	$54,600	$53,300	$57,100	$53,300	$48,900	$54,800	$50,000	$50,700	$52,000	$58,100
PHYSICAL SCIENTISTS	56,000	58,400	57,700	55,200	50,900	55,900	51,200	52,000	56,500	60,400
Chemists	55,000	57,900	57,300	54,900	50,400	53,800	50,700	52,400	47,900	58,400
Physicists / Astronomers	58,600	60,000	58,300	55,500	51,700	60,300	51,900	51,300	59,500	61,400
MATHEMATICAL SCIENTISTs	51,600	58,700	54,500	51,400	47,200	51,700	44,300	46,000	52,200	55,400
Mathematicians	51,600	58,700	55,100	51,400	44,800	52,000	40,700	44,300	53,500	55,500
Statisticians	51,500		51,200	51,400		51,700				
COMPUTER / INFO. SPECIALISTS	58,500	60,400	60,700	55,700	48,200	60,000	47,900	55,400	52,000	62,100
ENVIRONMENTAL SCIENTISTS	55,100	50,200	55,000	53,700	44,400	55,400	46,700	62,700	53,400	57,900
Earth Scientists	55,700	52,600	54,900	54,600	43,400	57,600	40,600	65,500	54,700	58,500
Oceanographers	50,600	53,600				50,100		48,400		52,200
Atmospheric Scientists	53,300		55,600			57,800			52,500	61,000
ENGINEERS	62,500	65,600	65,500	61,500	62,100	60,800	57,200	62,100	61,300	65,200
LIFE SCIENTISTS	50,700	50,800	55,500	52,000	48,300	50,700	48,100	40,900	44,900	52,800
Biological Scientists	50,200	50,500	52,600	50,900	48,300	49,200	46,500	44,500	44,600	53,000
Agricultural Scientists	48,700	54,100	55,300	50,000	45,600	51,800	48,500	44,400	41,300	48,500
Medical Scientists	55,300	51,700	62,900	55,200	50,700	55,100	51,200	52,000	50,300	55,100
PSYCHOLOGISTS	50,100	49,200	51,400	47,700	43,100	50,300	50,200	45,800	48,000	52,900
SOCIAL SCIENTISTS	50,400	49,800	52,700	48,500	45,800	55,400	46,200	42,700	47,900	51,300
Economists	58,100	52,600	65,500	55,800	50,900	61,200	55,400	50,600	51,500	60,500
Sociologist / Anthropologists	45,800	47,100	50,100	41,600	48,100	46,400		38,700	40,600	45,100
Other Social Scientists	48,600	50,100	49,600	47,500	41,800	52,700	41,900	40,900	47,400	51,400

NOTE: Median salaries were computed for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals. salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1989.*

TABLE 51

MEDIAN ANNUAL SALARIES OF EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD, SEX AND RACE/ETHNICITY AND CITIZENSHIP, 1989

FIELD	Total	SEX		RACE/ETHNIC GROUP					CITIZENSHIP		
									U. S.		Non-U. S.
		Men	Women	White	Black	Native American	Asian/ Pacific Islander	Hispanic	Native	Naturalized	
ALL FIELDS	$54,600	$56,000	$44,800	$56,300	$48,500	$48,900	$55,000	$50,100	$53,900	$60,100	$50,900
PHYSICAL SCIENTISTS	56,000	57,100	47,500	56,700	50,100		52,600	54,600	55,900	60,400	50,100
Chemists	55,000	55,900	46,900	55,700	45,600		52,000	54,000	55,100	59,200	46,900
Physicists / Astronomers	58,600	59,100	48,700	58,700	57,200		57,700	56,000	58,100	61,700	52,800
MATH. SCIENTISTS	51,600	52,200	45,200	51,900	44,500		47,900	44,000	51,600	59,100	42,000
Mathematicians	51,600	52,400	43,800	51,800	50,100		48,700	42,700	51,400	61,100	41,700
Statisticians	51,500	51,700	48,300	52,900			47,700		52,600	53,600	47,300
COMPUTER / INFO. SPEC.	58,500	60,100	50,000	58,300			60,100	56,900	58,300	60,600	56,600
ENVIRON. SCIENTISTS	55,100	55,600	43,600	54,800	63,400		55,900	49,300	53,900	63,200	52,800
Earth Scientists	55,700	57,000	42,500	55,400	63,400		60,900	49,600	55,100	62,800	63,000
Oceanographers	50,600	50,900	45,000	50,600			55,100		50,200		
Atmospheric Scientists	53,300	53,600	51,100	54,600			48,100		53,600	71,500	41,300
ENGINEERS	62,500	62,900	53,400	64,400	55,800		58,500	55,400	64,800	[illegible]	53,400
LIFE SCIENTISTS	50,700	53,200	43,100	50,800	46,300	52,500	50,400	50,100	50,500	[illegible]	46,100
Biological Scientists	50,200	52,000	42,500	50,200	46,700		50,000	50,200	50,000	54,200	45,600
Agricultural Scientists	48,700	49,800	40,400	49,000	40,200		45,400	37,900	48,800	50,000	45,200
Medical Scientists	55,300	60,800	45,000	55,400	46,800		56,400	60,100	54,400	67,300	50,200
PSYCHOLOGISTS	50,100	51,300	44,300	50,200	44,500	48,500	44,200	45,900	50,000	51,000	46,200
SOCIAL SCIENTISTS	50,400	52,000	44,200	50,700	47,200	48,500	48,300	44,300	50,400	51,600	48,700
Economists	58,100	59,500	47,500	58,600	50,200		52,400	60,900	58,100	55,800	60,400
Soc./Anthropologists	45,800	47,600	41,400	46,300	45,600		41,700	35,500	45,800	51,500	38,300
Other Social Scientists	48,600	50,400	42,500	48,800	47,200		47,500	41,800	48,600	50,800	46,300

NOTE: All median salaries were computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1989.*

TABLE 52

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY TYPE OF EMPLOYER, SEX AND PRIMARY WORK ACTIVITY, 1989

TYPE OF EMPLOYER AND SEX	TOTAL	RESEARCH & DEVELOPMENT				MANAGEMENT OR ADMIN.			Teaching	Consulting	Stat. Work/ Computing Activities	Other/ No Report
		Total	Basic Research	Applied Research	Develop-ment/Design	Total	of R&D	Other than R&D				
ALL EMPLOYERS												
Men	$56,000	$55,600	$54,200	$55,500	$60,000	$70,100	$74,300	$64,300	$50,200	$62,600	$51,600	$60,000
Women	44,800	45,300	42,500	47,000	50,500	50,700	57,900	48,300	41,200	46,500	42,100	42,300
INDUSTRY												
Men	63,100	58,100	57,000	57,400	60,000	79,500	79,500	78,900	63,500	64,600	56,600	71,700
Women	52,400	50,400	48,400	50,400	50,800	60,000	63,400	50,800		50,300	44,400	44,300
EDUCATIONAL INST.												
Men	52,700	55,000	54,800	55,100	60,100	65,500	67,300	65,100	50,200	48,800	47,200	50,400
Women	42,400	42,500	42,300	43,500		50,200	60,000	50,100	41,100		38,000	41,600
4- YEAR COLLEGES/UNIV.												
Men	53,100	55,000	54,800	55,100	60,100	66,100	67,500	65,600	50,500	48,800	45,900	50,500
Women	42,200	42,500	42,300	42,300		50,400	60,200	50,300	41,200		37,900	40,800
2- YEAR COLLEGES												
Men	45,100					45,700		45,700	44,800			
Women	42,700					51,100		51,100	42,200			
ELEM./SEC. SCHOOLS												
Men	48,700					58,900		58,500	38,600			
Women	45,700					48,200		48,100	36,700			
FEDERAL GOVERNMENT												
Men	55,100	52,100	50,900	51,500	58,600	63,400	64,700	60,000			47,000	50,600
Women	45,900	45,000	43,400	45,200		53,800	55,300	53,400			40,600	49,600
STATE/LOCAL GOVERNMENT												
Men	42,800	38,700	41,900	38,300		51,100	50,800	51,900			40,200	40,200
Women	42,800	39,100		36,200		44,400	51,500	43,700			43,500	36,700
NON-PROFIT ORGANIZATIONS												
Men	56,200	56,500	50,400	60,100	68,300	70,100	73,300	58,100		66,600	41,900	
Women	40,300	40,900	38,300	41,400		46,700	55,300	42,600			38,000	29,700

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988,* NSF 90-305

TABLE 53

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING BACCALAUREATE GRADUATES* BY FIELD OF DEGREE, S/E EMPLOYMENT STATUS AND SEX, 1988

FIELD OF DEGREE	TOTAL EMPLOYED			SCIENCE/ENGINEERING EMPLOYED			NON-SCIENCE/ENGINEERING EMPLOYED		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
TOTAL	$25,100	$27,000	$22,000	$27,500	$28,500	$24,000	$21,100	$23,000	$19,100
Physical Sciences	24,000	24,000	23,000	24,000	24,100	23,700	22,000	23,800	18,200
Chemistry	23,700	24,000	23,000	23,800	24,000	23,700	23,000	24,000	
Physics/Astronomy	25,700	25,700		26,000	26,000				
Other Physical Sciences	21,900	21,900		22,000	22,000				
Math/Statistics	24,400	25,000	22,900	25,600	26,900	24,000	20,000	20,000	20,000
Computer Sciences	28,000	28,100	27,500	28,500	28,900	28,000	24,000	25,000	22,900
Environmental Sciences	22,000	22,000	22,000	22,900	22,800	23,900	20,000	20,000	
Engineering	30,000	30,000	30,000	30,000	30,000	30,000	26,000	26,500	25,700
Life Sciences	19,500	20,000	19,000	20,000	20,000	20,000	18,500	18,500	19,000
Biology	19,500	19,500	19,600	20,000	20,000	20,000	18,300	18,000	19,000
Agricultural Sciences	19,600	20,000	17,400	19,600	20,000	18,000	19,800	20,000	17,000
Psychology	19,100	23,000	18,000	19,400		18,000	19,000	22,900	18,000
Social Sciences	21,900	23,200	20,000	21,000	23,000	20,000	22,400	24,000	20,100
Economics	23,000	25,000	21,000	22,500	25,000	21,100	24,000	25,000	20,500
Sociology/Anthropology	18,400	19,500	18,000	18,400			18,800		18,000
Other Social Sciences	22,000	22,400	20,100	20,000	21,100		22,900	22,900	22,900

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks Indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988,* NSF 90-305

TABLE 54

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING MASTER'S DEGREE GRADUATES* BY FIELD OF DEGREE, S/E EMPLOYMENT STATUS AND SEX, 1988

FIELD OF DEGREE	TOTAL EMPLOYED			SCIENCE/ENGINEERING EMPLOYED			NON-SCIENCE/ENGINEERING EMPLOYED		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
TOTAL	$34,900	$35,900	$31,000	$35,300	$36,100	$32,100	$26,100	$28,200	$24,400
Physical Sciences	30,100	32,000	29,000	30,100	32,000	29,000	33,900		
Chemistry	30,000	30,000	30,000	30,000	30,000	30,000			
Physics/Astronomy	34,000	34,000		34,000	34,800				
Other Physical Sciences	29,000	29,800	25,100	28,500	29,400	25,000			
Math/Statistics	34,200	37,000	31,200	34,900	38,000	31,200	30,000		
Computer Sciences	40,000	40,200	37,200	40,000	40,200	37,800	35,000		
Environmental Sciences	31,000	32,100	26,100	31,700	32,100	27,600			
Engineering	37,900	38,000	37,900	38,000	38,000	38,100	35,900	35,000	
Life Sciences	25,000	24,100	25,000	25,000	24,000	25,100	24,000	25,000	20,000
Biology	25,000	25,100	25,000	25,600	26,000	25,100	25,000		
Agricultural Sciences	23,000	23,500	20,600	23,000	23,000	23,500	19,100		
Psychology	22,000	22,000	22,000	21,900		24,000	23,900		
Social Sciences	26,100	27,700	24,000	26,100	27,000	25,000	26,000	31,800	24,000
Economics	30,000	30,100		30,100	31,800				
Sociology/Anthropology	26,000								
Other Social Sciences	25,000	27,000	24,000	25,000	24,300	25,000	25,100	39,000	24,000

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988,* NSF 90-305

TABLE 55

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING GRADUATES* BY FIELD AND LEVEL OF DEGREE AND TYPE OF EMPLOYER, 1988

FIELD OF DEGREE	TOTAL		TYPE OF EMPLOYER							
			Business & Industry		Educational Institutions		Federal Government		State & Local Governments	
	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's
TOTAL	$25,100	$34,900	$26,900	$37,900	$20,100	$27,000	$25,000	$30,100	$22,500	$26,900
Physical Sciences	24,000	30,100	25,000	33,500	21,900	25,700	24,000	32,000	20,600	24,000
Chemistry	23,700	30,000	25,000	32,000	21,400	28,000				
Physics/Astronomy	25,700	34,000	27,000	36,700						
Other Physical Sciences	21,900	29,000	21,900	37,000		26,900				
Math/Statistics	24,400	34,200	26,600	38,000	21,800	29,900	22,700			
Computer Sciences	28,000	40,000	28,600	40,100	22,000	32,100	27,000		24,000	
Environmental Sciences	22,000	31,000	22,900	32,900		26,900		23,000		24,000
Engineering	30,000	37,900	30,100	38,200	25,600	35,600	30,000		27,000	
Life Sciences	19,500	25,000	20,100	28,000	18,400	24,000	15,200		17,400	20,500
Biology	19,500	25,000	20,400	28,900	18,500	25,000				
Agricultural Sciences	19,600	23,000	20,100	26,000	17,800		15,500		18,000	20,500
Psychology	19,100	22,000	22,000		20,100					
Social Sciences	21,900	26,100	22,500	32,900	22,900	25,000	21,000	24,600	23,800	26,900
Economics	23,000	30,000	23,500	34,900						
Sociology/Anthropology	18,400	26,000	19,000							
Other Social Sciences	22,000	25,000	22,900	33,000		24,000				

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988,* NSF 90-305

TABLE 56

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING BACHELOR'S AND MASTERS DEGREE GRADUATES* BY FIELD OF STUDY, DEGREE LEVEL AND PRIMARY WORK ACTIVITY, 1988

FIELD OF STUDY	TOTAL		PRIMARY WORK ACTIVITY									
			Research & Development		Management/ Administration		Production Inspection		Rep/Stat/ Computing Act.		Teaching	
	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's
TOTAL	$25,100	$34,900	$28,500	$36,900	$24,000	$38,100	$26,000	$35,000	$26,100	$33,900	$20,100	$26,900
Physical Sciences	24,000	30,100	26,000	32,100	24,300	34,000	22,000	28,000	23,800	30,000	21,500	25,700
Chemistry	23,700	30,000	25,500	30,000	24,000	33,900	21,100	28,000	22,500		21,500	
Physics/Astronomy	25,700	34,000	30,000	34,900	37,600		24,000		24,000		25,600	
Other Physical Sciences	21,900	29,000	22,000	37,000	23,400		20,100		16,800		19,100	27,500
Math/Statistics	24,400	34,200	27,900	37,700	25,000	43,900	23,000		26,900	33,800	21,100	29,800
Computer Sciences	28,000	40,000	30,000	40,600	30,000	44,500	26,500		27,000	36,400	25,000	35,000
Environmental Sciences	22,000	31,000	14,000	30,000	26,000	30,000	21,000	35,300	24,000	28,900	15,000	
Engineering	30,000	37,900	30,800	39,600	30,000	42,100	29,800	37,900	29,700	36,100	25,700	22,300
Life Sciences	19,500	25,000	18,400	23,500	21,000	22,900	20,000		17,900	19,700	20,000	25,900
Biology	19,500	25,000	18,300	23,400	18,000		20,000		16,400		20,000	26,000
Agricultural Sciences	19,600	23,000	18,600	23,600	21,900	22,000	18,000		18,300		15,000	
Psychology	19,100	22,000	15,000		19,000		17,900		24,000		20,000	
Social Sciences	21,900	26,100	20,100		22,700	26,400	21,900		21,000	26,900	19,200	24,300
Economics	23,000	30,000	23,000		21,900		24,000		21,000		19,300	
Sociology/Anthropology	18,400	26,000	14,500		20,100		27,900		23,000		17,500	
Other Social Sciences	22,000	25,000	20,100		22,900	25,100	18,200		18,800		23,900	24,400

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988,* NSF 90-305

TABLE 57

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING GRADUATES* BY FIELD, RACIAL/ETHNIC GROUP AND DEGREE LEVEL, 1988

RACIAL/ETHNIC GROUP	FIELD		
	Total S/E Fields	Total Sciences	Total Engineering
ALL GROUPS			
Bachelor's	$25,000	$22,900	$30,000
Master's	34,900	32,100	37,900
WHITE			
Bachelor's	25,100	23,000	30,000
Master's	34,900	32,000	38,000
BLACK			
Bachelor's	23,000	22,000	29,100
Master's	33,600	30,000	38,000
ASIAN			
Bachelor's	27,500	24,000	30,000
Master's	35,800	35,900	35,300
HISPANIC			
Bachelor's	25,000	22,300	29,200
Master's	34,000	34,000	32,100

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991.*

TABLE 58

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION & DISCIPLINE, 1990

DISCIPLINE	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
ENGINEERING	**$70,860**	**$70,000**	**$62,504**	**$60,480**	**$70,721**	**$61,464**	**$48,414**	**$45,955**	**$34,407**	**$28,200**
Aeronautical / Aerospace	52,010	70,428	66,316	58,000					33,571	26,400
Chemical Engineering	63,628	61,000	63,472	70,974	75,223	72,197			34,523	28,200
Civil Engineering									31,151	20,400
Electrical/Electronic Engrg.	76,791	74,342	59,627	58,375	58,914	50,429	46,839	44,500	34,486	29,760
Engineering Technology	71,725	61,400	71,726	68,500					50,373	38,812
Materials Engineering									41,442	37,655
Mechanical Engineering	77,806	73,015	50,646	47,294			51,758	53,089	30,477	25,200
Metallurgical Engineering					58,427	60,000			49,521	48,000
Nuclear / Reactor Engrg.									28,810	19,686
Optical									44,218	44,250
PHYSICAL SCIENCES	**75,212**	**71,000**	**73,216**	**68,276**	**60,497**	**61,583**	**49,929**	**52,100**	**47,006**	**42,993**
Astronomy									35,271	27,360
Chemistry	77,049	71,000	80,318	81,996	64,306	69,531	48,742	52,550	48,744	44,130
Earth Science			58,975	64,153	58,116	57,211			41,994	38,932
Physics	70,076	76,900	64,268	62,000			52,108	52,000	47,483	43,661
Computer Science			50,535	59,446					34,917	30,240
Mathematics & Statistics									39,350	38,237
Mettallurgy									59,054	61,836
LIFE SCIENCES	**86,213**	**80,596**	**58,580**	**58,300**	**67,062**	**62,700**	**51,448**	**46,000**	**33,231**	**29,000**
Argiculture									37,799	38,580
Biochemistry	75,922	70,250	62,764	63,000	70,467	70,631			39,685	34,745
Biology	83,788	80,125	58,025	55,000	57,340	53,750			24,472	22,438
Dentistry					85,747	95,018				
Medicine / Osteopathy	94,478	93,926								
Psychology	70,421	62,000	63,067	64,056					44,550	43,152

[1] Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

[2] Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do individual research and/or development.

[3] Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

[4] Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

[5] Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991.*

TABLE 59

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION & METROPOLITAN AREA, JANUARY 1990

METROPOLITAN AREA	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Baltimore (MD) & Vicinity	$	$	$	$	$	$	$	$	$34,346	$32,396
Boston (MA) & Vicinity	111,436	113,000	50,600	50,000	66,589	74,287			73,172	72,800
Chicago (IL) & Vicinity	76,444	70,000	62,979	60,480	59,565	65,298	56,496	56,540	50,626	50,000
Dayton (OH) & Vicinity	81,564	77,950	59,509	58,531			40,803	42,047	44,597	42,993
Denver/Colorado Springs (CO) & Vicinity	75,592	76,810	64,165	60,187	56,283	57,410			37,722	36,075
Detroit (MI) & Vicinity	100,667	85,000							32,828	31,234
Greensboro/Winston-Salem/Highpoint (NC) & Vicinity									27,097	20,739
Hartford (CT) & Vicinity	63,737	55,000							30,833	27,811
Honolulu (HI) & vicinity			61,749	60,372						
Houston (TX) & Vicinity			64,417	71,184	55,212	57,882	45,813	42,516	42,699	38,790
Los Angeles/San Diego (CA) & Vicinity					63,942	62,400			39,041	36,400
Minneapolis/St. Paul (MN/WI) & Vicinity	73,152	65,506							39,703	38,400
Nashville (TN) & Vicinity									38,800	40,000
New York City (NY/NJ) & Vicinity	103,864	103,000	94,992	110,000					59,459	53,940
Oklahoma City (OK) & Vicinity	89,582	95,750	50,790	51,500					20,836	20,160
Philadelphia (PA/NJ)& Vicinity	59,820	59,008			79,172	75,200	49,491	49,448	41,427	34,521
Pittsburgh (PA) & Vicinity	59,022	36,960			68,264	70,008	59,633	58,766	47,447	48,000
Portland (OR) & Vicinity									43,000	38,000
Rochester (NY) & Vicinity			53,470	54,182			38,205	39,000	38,985	34,150
Salt Lake City/Ogden (UT) & Vicinity	63,309	55,633	58,297	51,358	36,164	37,067			35,332	28,113
San Antonio (TX) & Vicinity	80,055	84,822							91,029	100,000
San Francisco/Oakland (CA) & Vicinity	86,582	88,848	66,040	65,526					40,426	43,248
San Jose (CA) & Vicinity							56,704	57,241	40,697	39,187
Tulsa (OK) & Vicinity			56,535	59,000					40,589	43,028
Washington (DC/MD/VA) & Vicinity	70,768	64,000								

[1] Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

[2] Scientists, engineering or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or development .

[3] Scientists , engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from 'significant' to 'small.'

[4] Scientists, engineers or technologists, commonly designated as 'project leaders' doing individual research and supervising under 10.

[5] Scientists, engineers or technologists who range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991.*

TABLE 60

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION AND SELECTED STATES, 1990

STATE	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Arizona	$	$	$	$	$	$	$51,099	$48,300	$30,917	$25,740
California	84,709	81,000	63,034	63,840	64,295	65,000	51,420	54,670	39,560	36,400
Colorado	75,444	75,000	64,165	60,187	56,283	57,410			38,253	36,175
Connecticut	68,923	67,342							31,987	27,811
Florida	63,888	50,440	42,942	37,898					40,969	41,638
Georgia									43,821	45,830
Hawaii			61,749	60,372						
Illinois	76,590	71,600	58,846	57,900	53,391	47,100	56,496	56,540	46,521	44,100
Indiana			72,901	81,960	66,695	66,288			54,601	53,280
Iowa							43,200	44,000	34,000	32,000
Maryland									34,346	32,396
Massachusetts	106,382	106,500	50,600	50,000	66,589	74,287			73,172	72,800
Michigan	100,667	85,000	67,698	69,256	54,483	59,332	48,921	50,245	41,149	39,429
Minnesota	63,797	57,500							35,047	34,500
New Jersey	95,051	95,000	98,020	110,000					59,582	54,535
New Mexico	73,393	72,173		–					51,393	49,670
New York	65,869	72,000	49,040	52,800	54,545	58,419			38,857	34,150
North Carolina	64,401	36,250							30,249	29,581
Ohio	74,686	76,190	59,509	58,531	43,242	45,153	40,803	42,047	44,011	41,600
Oklahoma	83,231	88,725	53,663	54,800					25,831	21,200
Oregon									43,000	43,750
Pennsylvania	57,657	52,800	64,356	68,082	75,013	72,783	51,097	51,000	45,550	43,577
Texas	94,572	90,000	81,705	84,822	92,879	104,400	47,069	46,258	30,051	24,000
Utah	63,309	55,633	58,297	51,358	36,164	37,067			35,332	28,113
Virginia									29,980	28,113
Wisconsin	64,093	58,500	64,846	70,992					30,654	28,800

[1] Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

[2] Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do individual research and/or development.

[3] Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

[4] Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991.*

TABLE 61

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION & GEOGRAPHIC REGION, 1990

GEOGRAPHIC REGION	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
NORTHEASTERN STATES	$83,400	$74,342	$79,267	$78,796	$70,222	$72,593	$50,986	$50,471	$40,567	$35,047
SOUTHERN STATES	62,092	56,104	48,274	49,045					37,089	37,341
MIDWESTERN STATES	76,657	72,950	61,741	61,800	53,810	56,160	47,454	45,675	44,378	42,731
NORTH CENTRAL STATES	68,454	60,000	47,736	44,000			40,703	42,000	34,254	33,400
SOUTHWESTERN STATES	87,327	88,725	69,772	62,000	91,938	103,320	47,069	46,258	29,675	24,000
MOUNTAIN STATES	72,246	72,620	60,900	54,327	48,330	54,000	58,766	55,988	37,967	36,000
PACIFIC STATES	77,875	80,000	61,825	60,894	64,295	65,000	51,420	54,670	39,517	36,400

TABLE 62

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION AND LENGTH OF EXPERIENCE, 1990

LENGTH OF EXPERIENCE	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Under One Year	$	$	$	$	$	$	$	$	$32,489	$28,000
One or Two Years	74,801	73,806	55,158	54,000	72,807	68,005	44,639	42,000	26,172	24,000
Three or Four Years	70,200	54,400	60,896	53,502	60,059	43,750	43,731	36,435	40,425	36,582
Five Thru Nine Years	65,386	59,700	49,479	50,000	55,877	50,000	46,302	46,816	45,086	41,860
10 Thru 14 Years	70,409	69,007	62,997	60,492	62,783	60,000	50,026	48,117	47,609	43,100
15 Thru 19 Years	75,089	71,000	78,494	68,880	66,168	66,000	50,828	51,000	48,927	47,980
20 Thru 24 Years	75,268	72,620	64,550	60,000	80,434	75,725	59,342	56,266	52,001	52,262
25 Thru 29 Years	99,459	89,250	66,558	66,000	70,449	62,695	49,127	45,188	52,209	50,000
30 Years or More	79,813	75,600	58,169	53,400	88,243	88,600	54,962	45,479	55,943	52,000

[1] Scientists, engineers or technologists whose responsibilities range from primarily performing research and/or development, depending upon level

[2] Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functons and continuing to do individual research and/or development

[3] Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

[4] Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10

[5] Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991.*

TABLE 63

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION & TYPE OF EMPLOYER, 1990

TYPE OF EMPLOYER	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
All Manufacturing Organizations	**$67,107**	**$61,700**	**$59,630**	**$60,030**	**$58,885**	**$61,620**	**$50,343**	**$51,006**	**$45,552**	**$42,888**
Aerospace / Aircraft / Electrical/ Electronics Manufacturers	73,929	67,500	62,887	64,000			43,669	40,000	47,446	40,000
Chemical / Pharmaceutical / Plastics / Rubber Manufacturers	60,842	54,400	62,559	70,344	63,157	64,901	52,453	52,550	44,954	42,911
Fabricated Metal Products Mfg.	67,582	58,000	45,917	44,000			53,879	54,814	37,097	36,002
Food, Beverage & Tobaco Products Manufactures	57,041	59,700	45,603	46,050	37,473	38,065			32,888	31,650
Medical & Scientific Equip. Manufacturers	67,728	70,000	58,061	59,598			47,113	45,337	41,535	41,000
All Non-Manufacturers Organizations	86,785	79,996	69,829	61,984	69,574	64,984	48,837	44,916	32,816	27,811
Educational Institutions	90,497	81,064	76,789	73,565	112,385	115,440	58,359	48,143	30,255	25,704
Contract Research centers (For - Profit)	77,024	70,714	92,406	110,000					48,446	43,800
Contract Research centers (Non - Profit)	88,550	89,907	62,565	60,504	61,672	58,486	50,120	51,974	32,391	29,400

[1] Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

[2] Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do research and / or development.

[3] Scientists, engineers or technologists who continue to do individual research and /or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

[4] Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

[5] Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and /or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991.*

TABLE 64

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION & WORK FUNCTION, 1990

WORK FUNCTION	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Media	Mean	Median	Mean	Median
Pure Research	$93,723	$105,500	$62,213	$58,300	$69,174	$70,000	$51,398	$45,594	$28,509	25,000
Applied Research	75,297	72,620	63,711	62,000	64,641	67,074	53,709	54,844	46,945	47,672
Development	71,205	70,000	60,184	58,320	53,920	58,045	46,432	45,955	37,884	37,100
Research & Develpment	76,446	69,003	68,712	62,229	66,568	55,200	49,251	48,500	34,385	27,998

TABLE 65

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY JOB POSITION & LEVEL OF EDUCATION, 1990

LEVEL OF EDUCATION	JOB POSITION									
	Directors[1]		Managers[2]		Section Heads[3]		Unit Supervisors[4]		R&D Specialists[5]	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
No College	$	$	$	$	$	$	$43,576	$42,723	$35,418	$36,248
Some College, No Degree			50,857	49,896	41,163	39,050	37,231	40,000	35,925	35,880
A.A. (2 Year) Degree			45,123	43,500			45,071	43,000	34,002	32,000
Bachelor's Degree	60,591	55,000	52,578	52,440	47,133	45,000	49,356	50,000	29,319	25,200
Master's Degree	72,438	70,430	64,284	62,000	55,124	59,332	47,936	49,200	37,516	36,000
Doctorate	86,786	81,000	77,506	71,688	78,020	72,791	55,367	52,100	54,842	51,180

[1] Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

[2] Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or adminstrative functions and continuing to do individual research and/or development.

[3] Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

[4] Scientists, engineers or technologists, commonly designated as "project leaders" doing individual research and supervising under 10.

[5] Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1990 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers,* May 1990.

TABLE 66

NUMBER AND MEAN MONTHLY SALARIES OF BACHELOR'S DEGREE NONSUPERVISORY SCIENTISTS & ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE FIRST DEGREE, 1990

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE										
	2	4	7	10	13	15	18	21	24-25	30-31	TOTAL*
Aeronautical & Astronautical Engineering	(46) $2,755	(38) $3,071	(24) $3,477	(17) $3,746	(6) $4,031	(10) $4,288	(5) $4,421	(2)	(16) $4,934	(22) $5,316	(585) $3,843
Chemical Engineering	(61) 2,780	(61) 3,028	(24) 3,450	(23) 3,828	(10) 3,911	(16) 4,495	(8) 4,618	(14) 4,980	(15) 4,785	(14) 5,396	(779) 3,640
Electrical & Electronic Engineering	(189) 2,833	(242) 3,192	(186) 3,615	(104) 3,996	(55) 4,368	(46) 4,674	(43) 4,708	(32) 4,693	(53) 5,045	(87) 5,219	(3,092) 3,880
Environmental Engineering/ Science	(5) 2,671	(8) 2,891	(6) 3,104	(6) 3,952	(4) 3,767	(4) 3,771	(4) 3,887				(115) 3,360
Materials Engineering	(8) 2,842	(11) 3,147	(9) 3,405	(9) 4,069	(3) 3,528	(5) 4,224	(4) 4,223	(7) 4,453	(5) 4,641	(8) 4,655	(215) 3,902
Mechanical Engineering	(75) 2,628	(52) 3,120	(56) 3,576	(45) 3,883	(22) 4,156	(25) 4,300	(13) 4,464	(21) 4,467	(26) 4,924	(37) 5,135	(1,252) 3,841
Metallurgical Engineering	(2)	(4) 3,309		(4) 3,925						(3) 4,511	(54) 4,011
Nuclear & Reactor Engineering	(66) 2,735	(24) 2,866	(22) 3,307	(24) 3,640	(8) 4,096	(16) 4,074	(5) 4,517	(6) 4,816	(12) 4,681	(13) 4,977	(710) 3,545
Ocean Science Engineering	(4) 2,380	(5) 3,112	(4) 3,843						(4) 5,456		(79) 3,861
Other Engineering	(4) 2,884	(6) 3,320	(7) 3,728	(8) 4,003	(5) 4,617	(5) 4,603		(3) 4,942	(4) 5,621	(10) 5,495	(146) 4,343
Atmospheric, Earth, Marine & Space Sciences	(21) 2,863	(30) 2,976	(15) 3,229	(11) 3,758	(6) 4,395	(7) 3,833	(7) 4,981	(1)	(11) 5,242	(8) 5,429	(287) 3,596
Biological Sciences	(23) 2,158	(23) 2,343	(28) 2,768	(20) 3,256	(11) 3,308	(11) 3,305	(1)	(6) 3,202	(12) 3,708	(8) 3,456	(422) 2,938
Biomedical Specialties	(10) 2,660	(9) 2,736	(11) 3,014	(8) 3,389	(5) 3,006	(3) 4,102		(1)	(9) 3,649	(4) 4,100	(178) 3,039
Chemistry	(76) 2,365	(51) 2,528	(67) 2,920	(62) 3,231	(44) 3,438	(32) 3,484	(23) 3,945	(21) 4,022	(42) 3,883	(32) 4,149	(1,335) 3,271
Computer Sciences	(210) 2,733	(216) 3,092	(151) 3,604	(77) 4,009	(36) 4,129	(37) 4,197	(26) 4,676	(14) 4,525	(26) 4,678	(18) 5,095	(2,343) 3,503
Mathematics	(12) 2,749	(15) 3,231	(10) 3,621	(11) 4,271	(7) 4,728	(6) 3,738	(8) 4,457	(13) 5,226	(13) 4,811	(21) 5,289	(370) 4,330
Optics/Lasers	(18) 2,873	(13) 3,049	(16) 3,662	(7) 3,817	(9) 4,302	(3) 4,920	(4) 5,126		(9) 5,522	(5) 5,032	(229) 3,939
Physics	(23) 2,745	(24) 3,029	(21) 3,550	(17) 3,853	(13) 4,070	(9) 4,390	(7) 4,190	(13) 4,539	(11) 4,898	(34) 5,144	(532) 4,231
Statistics	(3) 2,730	(7) 2,742		(4) 3,969							(69) 3,671

*Total includes all years since first degree. NOTE: Numbers in parenthesis are survey respondents.
Blanks include insufficient data.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1990 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers,* May 1990

TABLE 67

NUMBER AND MEAN MONTHLY SALARIES OF MASTER'S DEGREE NONSUPERVISORY SCIENTISTS & ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE FIRST DEGREE, 1990

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE										
	2	4	7	10	13	15	18	21	24-25	30-31	TOTAL*
Chemical Engineering	(7) $2,902	(22) $3,050	(17) $3,525	(12) $3,988	(18) $4,247	(19) $4,345	(7) $5,377	(10) $4,692	(10) $5,336	(9) $5,395	(389) $4,270
Civil Engineering	(5) 2,947	(3) 3,330	(2)	(2)	(6) 4,888	(4) 4,953	(4) 5,919	(3) 5,671	(1)	(3) 4,805	(90) 4,487
Electrical & Electronic Engineering	(28) 3,251	(65) 3,468	(91) 3,911	(67) 4,229	(49) 4,337	(53) 4,719	(42) 4,850	(34) 4,923	(72) 5,193	(83) 5,737	(1,834) 4,722
Environmental Engineering/ Science	(4) 2,775	(6) 2,833	(7) 3,069	(11) 4,035	(3) 4,299	(9) 4,064	(5) 4,925	(6) 4,659	(2)		(127) 3,878
Materials Engineering	(5) 2,943	(3) 3,060	(5) 3,085	(8) 4,068	(5) 4,060	(7) 3,859	(5) 4,400	(3) 4,442	(3) 4,353	(7) 5,175	(182) 4,214
Mechanical Engineering	(12) 3,057	(25) 3,246	(37) 3,650	(34) 4,003	(27) 4,366	(22) 4,446	(15) 4,880	(15) 4,599	(30) 5,459	(29) 5,348	(721) 4,522
Metallurgical Engineering		(4) 3,507	(3) 3,559							(6) 4,633	(73) 4,462
Nuclear & Reactor Engineering	(5) 2,916	(12) 3,086	(13) 3,251	(20) 3,763	(6) 4,056	(16) 4,351	(10) 4,799	(7) 4,751	(11) 4,691	(4) 5,616	(349) 4,107
Other Engineering		(7) 3,396	(4) 4,079	(9) 3,836	(6) 3,964	(4) 4,381	(5) 5,079	(3) 6,441	(6) 5,220	(6) 6,289	(143) 4,797
Atmospheric, Earth, Marine & Space Sciences	(3) 3,022	(13) 3,074	(24) 3,237	(18) 3,752	(22) 4,286	(23) 3,939	(11) 4,380	(8) 4,481	(12) 4,829	(11) 5,549	(399) 4,100
Biological Sciences		(5) 2,418	(5) 2,912	(9) 3,509	(13) 3,361	(11) 3,281	(9) 3,871	(11) 4,034	(12) 3,667	(11) 3,745	(247) 3,450
Biomedical Specialties			(6) 3,320		(5) 3,440			(3) 4,240			(59) 3,565
Chemistry	(6) 3,275	(13) 2,637	(17) 3,028	(27) 3,263	(23) 3,723	(24) 3,620	(18) 3,874	(13) 4,474	(25) 4,171	(15) 4,657	(498) 3,868
Computer Sciences	(10) 3,167	(37) 3,462	(53) 3,753	(65) 4,104	(52) 4,367	(56) 4,498	(41) 4,595	(35) 5,052	(44) 4,953	(20) 5,113	(1,189) 4,358
Mathematics		(4) 3,418	(6) 3,710	(8) 4,021	(12) 4,568	(10) 4,703	(9) 4,817	(8) 5,160	(19) 5,035	(26) 5,564	(331) 4,911
Optic/Lasers	(2)	(6) 3,312	(10) 3,590	(8) 3,633	(5) 4,719	(5) 4,629	(1)	(3) 4,830	(6) 5,445	(3) 5,070	(168) 4,350
Physics	(5) 3,013	(15) 3,214	(15) 3,664	(18) 4,089	(16) 4,294	(21) 4,239	(10) 4,642	(14) 4,918	(23) 5,172	(27) 5,412	(528) 4,606
Statistics	(2)	(7) 3,007	(5) 3,617	(5) 3,533	(6) 3,897	(5) 3,864	(6) 4,295	(4) 4,780	(2)	(4) 5,486	(145) 4,110

*Total includes all years since first degree.
Blanks indicate insufficient data.

NOTE: Numbers in parenthesis are survey respondents.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1990 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers,* May 1990

TABLE 68

NUMBER AND MEAN MONTHLY SALARIES OF DOCTORATE DEGREE NONSUPERVISORY SCIENTISTS & ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE FIRST DEGREE, 1990

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE										
	5	7	10	13	15	18	21	24-25	28-29	30-31	TOTAL*
Aeronautical & Astronautical Engineering	(3) $4,134	(5) $3,951	(10) $4,348	(5) $4,723	(6) $4,630	(10) $4,993	(9) $5,435	(22) $5,723	(19) $5,636	(15) $5,799	(267) $5,229
Chemical Engineering	(10) 4,048	(18) 4,097	(38) 4,180	(23) 4,832	(26) 4,845	(18) 4,976	(19) 4,994	(28) 6,153	(18) 5,897	(23) 6,153	(580) 5,049
Electrical & Electronic Engineering	(6) 4,562	(23) 4,437	(25) 4,528	(17) 4,579	(30) 4,902	(18) 5,078	(21) 5,532	(46) 5,991	(33) 5,745	(33) 6,111	(688) 5,373
Environmental Engineering/ Science				(5) 3,644	(9) 4,579	(2)	(5) 4,929	(4) 4,615	(3) 6,388	(2)	(89) 4,761
Materials Engineering		(5) 3,791	(13) 4,147	(16) 4,404	(10) 4,534	(12) 5,470	(8) 4,964	(12) 4,972	(12) 5,178	(10) 5,554	(244) 4,905
Mechanical Engineering	(1)	(9) 3,923	(10) 4,443	(15) 4,628	(15) 4,796	(14) 5,521	(10) 5,412	(37) 5,604	(34) 5,733	(25) 6,131	(406) 5,372
Metallurgical Engineering	(1)	(1)	(2)	(3) 5,145	(3) 4,939	(3) 5,171	(6) 5,392	(8) 5,532	(10) 5,616	(13) 5,784	(125) 5,326
Nuclear & Reactor Engineering	(1)	(1)		(4) 4,203	(1)	(1)	(5) 5,288	(12) 5,578	(11) 5,391	(8) 5,616	(128) 5,148
Ocean Science Engineering	(1)	(2)	(5) 4,491	(6) 4,064	(3) 4,952	(3) 5,251	(3) 5,983	(7) 6,171	(2)	(5) 5,787	(103) 5,369
Other Engineering		(2)	(3) 4,334	(1)		(4) 5,194	(1)	(9) 5,003	(6) 6,633	(5) 5,706	(86) 5,401
Agricultural Sciences		(1)	(2)	(3) 4,098	(2)	(4) 4,111	(6) 4,607	(4) 5,599	(3) 5,070	(8) 4,688	(97) 4,185
Atmospheric, Earth, Marine & Space Sciences	(3) 3,297	(10) 3,424	(25) 3,931	(34) 4,510	(35) 4,619	(33) 4,462	(28) 5,122	(43) 5,732	(32) 5,714	(29) 5,612	(661) 4,959
Biological Sciences	(5) 2,373	(10) 3,257	(22) 3,583	(29) 4,089	(41) 3,797	(24) 4,355	(21) 4,711	(36) 5,070	(25) 4,788	(22) 5,425	(619) 4,438
Chemistry	(8) 3,735	(23) 3,791	(38) 3,989	(40) 4,264	(39) 4,434	(37) 4,824	(36) 4,780	(61) 5,259	(41) 5,773	(32) 5,467	(1,029) 4,780
Computer Sciences	(1)	(14) 4,447	(12) 4,565	(20) 4,998	(16) 5,462	(15) 5,227	(10) 5,531	(27) 6,135	(18) 5,523	(12) 5,643	(355) 5,325
Mathematics	(2)	(3) 4,120	(4) 4,396	(9) 4,863	(9) 5,253	(8) 5,175	(13) 5,543	(21) 6,067	(26) 5,280	14) 5,444	(262) 5,354
Optic/Lasers	(1)	(5) 3,963	(14) 4,004	(15) 4,099	(9) 4,629	(5) 5,016	(4) 5,181	(16) 5,810	(8) 5,450	(14) 5,355	(227) 4,834
Physics	(3) 2,403	(19) 3,640	(37) 3,986	(37) 4,402	(45) 4,614	(29) 5,110	(44) 5,332	(95) 5,692	(72) 5,699	(61) 5,610	(1,215) 5,134
Statistics	(4) 4,013	(3) 4,114	(3) 4,317	(6) 4,550	(9) 4,536	(4) 5,327	(8) 5,707	(13) 5,851	(8) 5,849	(12) 6,067	(177) 5,241

*Total includes all years since first degree. NOTE: Numbers in parenthesis are survey respondents.
Blanks indicate insufficient data.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1990 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1990

TABLE 69

NUMBER AND MEAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS BY DEGREE LEVEL, TYPE OF ESTABLISHMENT, AND SELECTED YEARS SINCE FIRST DEGREE, 1990

TYPE OF ESTABLISHMENT & DEGREE LEVEL	SELECTED YEARS SINCE FIRST DEGREE										
	2	4	7	10	13	15	18	21	24-25	30-31	TOTAL*
BACHELOR'S DEGREE Nonprofit Establishments	(132) $2,842	(142) $2,988	(109) $3,616	(88) $3,783	(43) $4,112	(41) $4,153	(31) $4,786	(35) $4,947	(44) $4,771	(58) $5,181	(2,315) $3,800
Educational Institutions	(122) 2,274	(66) 2,912	(39) 3,293	(19) 3,650	(9) 3,638	(11) 3,938	(10) 3,716	(7) 3,890	(16) 4,414	(12) 4,331	(1,100) 2,801
Contract Research Centers	(182) 2,917	(131) 3,133	(117) 3,525	(107) 3,768	(60) 4,226	(81) 4,320	(31) 4,466	(41) 4,819	(74) 4,872	(102) 5,149	(2,921) 3,972
Federal Government Establishments	(55) 2,700	(49) 3,106	(42) 3,484	(11) 3,762	(12) 3,941	(2)	(4) 4,111		(11) 4,323	(33) 4,753	(715) 3,685
Total Industry	(410) 2,750	(510) 3,086	(414) 3,464	(286) 3,864	(165) 4,049	(152) 4,168	(112) 4,578	(96) 4,448	(173) 4,726	(167) 5,053	(7,204) 3,784
MASTERS DEGREE Nonprofit Establishments	(25) 2,970	(58) 3,324	(91) 3,791	(67) 3,985	(62) 4,462	(75) 4,664	(58) 4,944	(58) 5,151	(84) 5,338	(94) 5,658	(2,081) 4,693
Educational Institutions	(7) 2,951	(12) 2,778	(20) 2,803	(20) 3,403	(18) 3,539	(20) 3,675	(9) 4,322	(7) 3,965	(18) 4,136	(8) 4,252	(410) 3,709
Contract Research Centers	(37) 3,301	(74) 3,443	(82) 3,649	(103) 3,819	(67) 4,170	(105) 4,275	(69) 4,600	(63) 4,802	(94) 4,953	(88) 5,388	(2,407) 4,407
Federal Government Establishments	(8) 2,903	(25) 3,031	(25) 3,518	(16) 3,576	(12) 3,940	(13) 3,797	(5) 4,402	(7) 4,447	(29) 4,696	(36) 4,819	(525) 4,178
Total Industry	(40) 3,096	(145) 3,281	(173) 3,665	(190) 4,130	(192) 4,324	(144) 4,462	(119) 4,789	(95) 4,965	(173) 5,164	(111) 5,472	(4,010) 4,501
DOCTORAL DEGREE Nonprofit Establishments		(2)	(25) 3,965	(48) 4,233	(53) 4,371	(63) 4,766	(47) 5,350	(53) 5,540	(109) 5,892	(61) 6,036	(1,336) 5,280
Educational Institutions		(1)	(25) 3,112	(28) 3,239	(39) 3,729	(46) 3,842	(42) 4,328	(38) 4,647	(59) 5,185	(46) 5,100	(1,030) 4,488
Contract Research Centers		(4) 3,429	(38) 4,135	(91) 4,343	(93) 4,639	(114) 4,702	(92) 5,012	(116) 5,190	(220) 5,563	(132) 5,785	(2,843) 5,185
Federal Government Establishments			(8) 3,287	(28) 3,862	(27) 4,076	(21) 4,259	(20) 4,642	(19) 4,930	(50) 5,248	(45) 5,449	(709) 4,862
Total Industry		(17) 3,947	(119) 4,269	(204) 4,427	(214) 4,837	(178) 5,028	(181) 5,308	(145) 5,638	(296) 6,019	(184) 6,114	(4,636) 5,301

*Total includes all years since first degree. Note: Numbers in parenthesis are survey respondents.
Blanks indicate insufficient data.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1990 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1990

TABLE 70

NUMBER AND MEAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS BY HIGHEST DEGREE FIELD AND SELECTED YEARS SINCE FIRST DEGREE, 1990

HIGHEST DEGREE FIELD	SELECTED YEARS SINCE FIRST DEGREE										
	2	4	7	10	13	15	18	21	24-25	30-31	TOTAL*
BACHELOR'S DEGREE											
Engineering	(505) $2,795	(503) $3,160	(399) $3,611	(286) $3,963	(127) $4,308	(134) $4,507	(86) $4,721	(93) $4,788	(152) $5,046	(222) $5,210	(7,833) $3,867
Chemistry	(67) 2,391	(49) 2,652	(50) 2,969	(49) 3,489	(37) 3,601	(33) 3,768	(26) 4,261	(20) 4,148	(44) 4,117	(42) 4,352	(1,332) 3,654
Physics	(28) 2,763	(31) 3,161	(32) 3,668	(21) 4,005	(23) 4,168	(15) 4,250	(12) 4,286	(19) 4,415	(35) 5,148	(49) 5,147	(865) 4,350
Other Physical Sciences	(10) 2,825	(22) 2,860	(30) 3,429	(26) 3,736	(14) 4,103	(21) 3,807	(15) 4,825	(2)	(5) 4,486	(7) 4,780	(379 3,664
Life Sciences - Health & Related	(28) 2,566	(15) 2,789	(21) 2,916	(12) 3,627	(16) 3,357	(7) 3,886		(2)	(7) 3,345	(3) 4,022	(298 3,079
Life Sciences - Other	(39) 2,352	(46) 2,480	(31) 2,770	(40) 3,055	(21) 3,295	(30) 3,454	(8) 3,798	(9) 3,585	(20) 3,991	(8) 3,305	(701) 2,971
Mathematics & Statistics	(39) 2,632	(45) 3,194	(33) 3,568	(35) 3,906	(21) 4,365	(21) 4,153	(24) 4,507	(24) 5,000	(40) 4,658	(34) 5,330	(954) 4,082
Computer Sciences	(171) 2,785	(165) 3,092	(89) 3,639	(25) 4,188	(17) 4,585	(18) 4,537	(10) 4,665	(3) 4,919	(4) 5,013		(1,467 3,283
MASTER'S DEGREE											
Engineering	(85) 3,147	(176) 3,377	(207) 3,811	(207) 4,154	(156) 4,385	(156) 4,584	(107) 5,041	(92) 5,167	(187) 5,327	(180) 5,613	(4,712) 4,635
Chemistry	(8) 2,803	(22) 2,775	(35) 3,192	(42) 3,575	(27) 4,000	(29) 4,043	(40) 4,321	(33) 4,942	(47) 4,684	(24) 5,254	(975) 4,220
Physics	(2) 3,150	(9) 3,150	(24) 3,751	(18) 3,905	(23) 4,155	(25) 4,390	(17) 4,973	(19) 4,952	(53) 5,265	(50) 5,298	(778) 4,776
Other Physical Sciences	(4) 3,145	(18) 2,871	(34) 3,283	(27) 3,864	(29) 4,302	(33) 4,167	(25) 4,718	(16) 4,817	(15) 5,022	(10) 5,080	(569) 4,138
Life Sciences - Health & Related		(4) 2,794	(4) 3,153	(15) 3,467	(12) 3,463	(15) 3,559	(4) 4,443	(6) 4,235	(9) 3,904	(9) 4,069	(191) 3,580
Life Sciences - Other	(2)	(8) 2,827	(14) 3,084	(13) 2,852	(15) 3,496	(13) 3,468	(7) 4,155	(9) 4,003	(7) 3,845	(11) 4,363	(291) 3,504
Mathematics & Statistics	(3) 2,841	(20) 3,274	(21) 3,688	(16) 4,115	(34) 4,314	(30) 4,604	(21) 4,378	(18) 4,815	(40) 4,935	(40) 5,370	(754) 4,639
Computer Sciences	(8) 3,338	(36) 3,577	(42) 3,705	(40) 3,952	(44) 4,456	(41) 4,464	(34) 4,737	(30) 4,840	(29) 4,770	(8) 5,061	(893) 4,326
DOCTORAL DEGREE											
Engineering		(8) 4,027	(84) 4,247	(112) 4,387	(98) 4,822	(89) 5,010	(100) 5,358	(89) 5,490	(209) 5,915	(156) 6,062	(2,843) 5,354
Chemistry		(4) 3,536	(42) 3,818	(85) 4,231	(85) 4,534	(85) 4,615	(87) 5,130	(72) 5,237	(173) 5,678	(82) 5,890	(2,325) 5,091
Physics		(1)	(22) 3,548	(74) 4,308	(79) 4,532	(87) 4,865	(72) 5,169	(96) 5,425	(185) 5,662	(123) 5,805	(2,330) 5,307
Other Physical Sciences		(1)	(20) 4,109	(42) 4,127	(58) 4,604	(44) 4,652	(50) 5,024	(36) 5,378	(54) 5,881	(33) 5,859	(951) 5,067
Life Sciences - Health & Related		(1)	(8) 3,620	(18) 4,427	(38) 4,413	(38) 4,385	(22) 4,398	(21) 5,033	(20) 5,448	(12) 5,491	(601) 4,628
Life Sciences - Other			(8) 3,444	(22) 3,458	(24) 3,879	(35) 4,055	(19) 4,308	(21) 4,463	(24) 4,879	(26) 4,826	(496) 4,444
Mathematics & Statistics		(1)	(6) 4,140	(12) 4,416	(19) 4,639	(27) 4,790	(21) 5,050	(22) 5,570	(43) 6,001	(29) 5,909	(539) 5,250
Computer Sciences		(2)	(9) 4,292	(10) 4,318	(7) 5,296	(7) 5,937	(6) 5,503	(9) 5,667	(18) 6,004	(1)	(185) 5,370

*Total includes all years since first degree. NOTE: Numbers in parenthesis are survey respondents.

Blanks indicate insufficient data.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1990 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1990

TABLE 71

NUMBER, MEAN AND MEDIAN MONTHLY SALARIES OF SCIENTISTS & ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY WORKING-AS OCCUPATION AND DEGREE LEVEL, 1990

WORKING-AS OCCUPATION	DEGREE LEVEL								
	BACHELOR'S			MASTER'S			Ph. D.		
	No.	Mean	Median	No.	Mean	Median	No.	Mean	Median
Aeronautical & Astronautical Engineering	585	$3,843	$3,531	581	$4,535	$4,443	267	$5,229	$5,047
Ceramic Engineering	19	3,614	3,601	11	4,304	3,976	30	5,266	4,951
Chemical Engineering	779	3,640	3,366	389	4,270	4,236	580	5,049	4,838
Civil Engineering	80	3,603	3,451	90	4,487	4,634	72	5,402	5,137
Electrical & Electronic Engineering	3,092	3,880	3,657	1,834	4,722	4,577	688	5,373	5,214
Materials Engineering	215	3,902	3,787	182	4,214	4,101	244	4,905	4,737
Mechanical Engineering	1,252	3,841	3,740	721	4,522	4,412	406	5,372	5,268
Metallurgical Engineering	54	4,011	3,801	73	4,462	4,393	125	5,326	5,389
Mining & Petroleum Engineering	53	3,603	3,601	42	4,368	4,011	66	5,254	4,991
Nuclear or Reactor Engineering	710	3,545	3,251	349	4,107	4,086	128	5,148	5,076
Ocean Science Engineering	79	3,861	3,689	80	4,817	4,618	103	5,369	5,264
Environmental Engineering/Science	115	3,360	3,141	127	3,878	3,809	89	4,761	4,526
Other Engineering Fields	146	4,343	4,251	143	4,797	4,668	86	5,401	5,451
Physics	532	4,231	4,065	528	4,606	4,555	1,215	5,134	5,104
Chemistry	1,335	3,271	3,111	498	3,868	3,721	1,029	4,780	4,644
Atmospheric, Earth, Marine & Space Science	287	3,596	3,281	399	4,100	3,887	661	4,959	4,919
Agricultural Science	11	2,999	2,968	27	3,677	3,701	97	4,185	4,081
Biological Science	422	2,938	2,930	247	3,450	3,365	619	4,438	4,375
Biomedical Specialties	178	3,039	2,924	59	3,565	3,414	97	4,759	4,334
Mathematics	370	4,330	4,386	331	4,911	4,880	262	5,354	5,296
Statistics	69	3,671	3,426	145	4,110	3,944	177	5,241	5,034
Computer Science	2,343	3,503	3,346	1,189	4,358	4,228	355	5,325	5,210
Optics/Lasers	229	3,939	3,664	168	4,350	4,139	227	4,834	4,726

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1990 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1990

TABLE 72

NUMBER, MEAN AND MEDIAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY DEGREE LEVEL AND GEOGRAPHIC REGION, 1990

GEOGRAPHIC REGION	DEGREE LEVEL								
	BACHELOR'S			MASTER'S			Ph. D		
	No.	Mean	Median	No.	Mean	Median	No.	Mean	Median
Northeast	5,817	$3,765	$3,561	3,402	$4,563	$4,463	2,752	$5,296	$5,205
Southeast	1,611	3,452	3,265	1,364	4,116	4,016	1,844	4,942	4,857
Midwest	2,391	3,581	3,461	1,183	4,141	4,028	1,555	4,903	4,668
Northwest	362	3,783	3,701	384	3,988	3,926	363	4,619	4,548
Southwest	4,074	3,923	3,724	3,100	4,700	4,624	4,040	5,310	5,284

TABLE 73

NUMBER, MEAN AND MEDIAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY DEGREE LEVEL AND TYPE OF INDUSTRY, 1990

TYPE OF INDUSTRY	DEGREE LEVEL								
	BACHELOR'S			MASTER'S			Ph. D.		
	No.	Mean	Median	No.	Mean	Median	No.	Mean	Median
Aerospace	1,297	$4,285	$4,109	997	$4,939	$4,904	693	$5,526	$5,520
Industrial & Agricultural Chemicals	464	3,478	3,351	294	3,991	3,944	449	4,652	4,433
Drugs, Biomedical, and Genetics	706	3,123	2,957	325	3,677	3,576	488	5,015	4,878
Electrical, Electronic & Computer	2,294	3,739	3,595	992	4,529	4,393	547	5,499	5,409
Food, Additives, & Personal Products	338	3,609	3,431	86	4,598	4,571	105	4,984	4,745
Instruments	276	3,457	3,345	107	3,833	3,857	59	4,324	4,234
Materials	513	3,927	3,866	174	4,342	4,373	213	4,860	4,756
Diversified	1,046	3,631	3,441	755	4,347	4,174	1,075	5,401	5,362
Petroleum	270	4,897	4,634	280	5,068	4,984	1,007	5,541	5,291

SOURCE: *Research & Development Magazine*, March 1990, May 1990,and June 1991.

TABLE 74

SALARIES OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY PROFESSION, 1990 AND 1991

PROFESSION	MEDIAN SALARY		% Change
	1991	1990	
Aeronautical Engineer	$58,333	$56,111	4.0
Physicist	58,062	54,500	6.5
Mathematician	56,666	49,998	13.3
Geologist	55,500	51,250	8.3
Nuclear Engineer*	55,010		
Chemical Engineer	54,750	52,931	3.4
Materials*	54,107		
Electrical Engineer	54,030	50,978	5.9
Chemist	51,794	48,312	7.2
Biologist/Biotech	49,838	46,315	7.6
Mechanical Engineer	49,578	49,280	0.6
Industrial Engineer	43,636	46,448	-6.1

* New Category in 1991

TABLE 75

SALARIES OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY DEGREE LEVEL, 1990 AND 1989

DEGREE	MEDIAN SALARY		% Change	ANNUAL DIFFERENCE		Difference Change (Percent)
	1990	1989		1990	1989	
Doctorate	$57,138	$54,351	5.1	$7,036	$6,436	+ 9.3
Master's	50,102	47,915	4.6	5,358	4,982	+ 7.5
Bachelor's	44,744	42,933	4.2	6,904	7,286	-5.3
Less than Bachelors	37,840	35,647	6.1			

*Difference above next-lower degree.

TABLE 76

SALARIES OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY TYPE OF EMPLOYER AND SEX, 1990 AND 1989

TYPE OF EMPLOYER AND SEX	1990	1989	% Change
Industry	$49,978	$48,307	+ 3.5
Men	51,015	49,434	+ 3.2
Women	40,705	36,561	+ 11.3
Government	48,793	45,482	+ 7.3
Men	50,061	45,802	+ 9.3
Women	38,654	41,249	-6.3
Universities	47,500	43,181	+ 10.0
Men	49,168	44,317	+ 10.9
Women	34,167	27,499	+ 24.2

SOURCE: U.S. Department of Labor, *White-Collar pay: Private Goods-Producing Industries,* March 1990.

TABLE 77

NUMBER AND AVERAGE SALARIES FOR SELECTED PROFESSIONAL, ADMINISTRATIVE, TECHNICAL AND CLERICAL OCCUPATIONS IN PRIVATE GOODS - PRODUCING INDUSTRIES, MARCH 1990

OCCUPATION AND CLASS	NO. OF EMPLOYEES	MONTHLY SALARIES		ANNUAL SALARIES	
		MEAN	MEDIAN	MEAN	MEDIAN
Accountants I	9,534	$2,060	$2,041	$28,723	$24,490
Accountants II	22,169	2,442	2,374	29,307	28,489
Accountants III	30,158	3,005	2,957	36,055	35,486
Accountants IV	18,387	3,751	3,725	45,013	44,700
Accountants V	6,097	4,733	4,616	56,792	55,392
Accountants VI	1,349	6,091	6,039	70,097	72,471
Chief Accountants I	953	3,613	3,499	43,353	41,983
Chief Accountants II	1,097	4,746	4,831	56,947	57,977
Chief Accountants III	631	6,006	5,833	72,068	69,996
Chemists I	2,686	2,400	2,357	28,798	28,289
Chemists II	7,478	2,766	2,774	33,191	33,287
Chemists III	8,433	3,405	3,374	40,863	40,484
Chemists IV	7,896	4,124	4,091	49,494	49,092
Chemists V	6,438	4,954	4,925	59,448	59,100
Chemists VI	2,538	6,093	6,055	73,114	72,660
Chemists VII	565	7,140	7,097	85,676	85,166
Engineers I	26,427	2,618	2,621	31,412	31,458
Engineers II	59,692	2,949	2,924	35,389	35,086
Engineers III	113,889	3,430	3,391	41,157	40,696
Engineers IV	134,983	4,100	4,080	49,195	48,960
Engineers V	86,458	4,955	4,915	59,462	58,980
Engineers VI	40,757	5,887	5,845	70,646	70,143
Engineers VII	10,284	6,800	6,690	81,597	80,281
Engineers VIII	1,839	7,793	7,508	93,514	90,100
Engineering Technicians I	2,991	1,640	1,648	19,674	19,771
Engineering Technicians II	12,506	1,882	1,855	22,581	22,256
Engineering Technicians III	22,517	2,239	2,213	26,868	26,561
Engineering Technicians IV	28,492	2,687	2,677	32,245	32,123
Engineering Technicians V	14,380	3,086	3,041	37,036	36,494
Attorneys I	133	3,897	3,978	46,760	47,736
Attorneys II	616	4,297	3,918	51,560	47,011
Attorneys III	1,341	5,217	5,000	62,603	60,000
Attorneys IV	11,297	6,708	6,664	80,502	79,968
Attorneys V	879	8,088	7,916	97,060	94,992
Attorneys VI	375	9,972	9,996	119,670	119,952
Registered Nurses I	2,153	2,172	2,158	26,063	25,898
Registered Nurses II	3,853	2,576	2,582	30,910	30,988
Registered Nurses III	86	3,331	3,349	39,974	40,184
Licensed Practical Nurse II	691	1,652	1,634	19,826	19,612
Secretaries II	31,140	1,840	1,837	22,081	22,040
Secretaries III	57,385	2,057	2,022	24,683	24,266
Drafters I	1,049	1,199	1,200	14,382	14,394
Drafters II	8,054	1,512	1,504	18,146	18,053
Drafters III	16,564	1,876	1,837	22,516	22,039
Drafters IV	19,104	2,330	2,332	27,959	27,989
Drafters V	9,480	2,846	2,816	34,158	33,797
Computer Operators I	2,079	1,381	1,343	16,577	16,119
Computer Operators II	11,859	1,685	1,646	20,220	19,752
Computer Operators III	9,779	2,111	2,040	25,331	24,482
Computer Operators IV	2,830	2,483	2,426	29,797	29,118
Computer Programmers I	4,572	2,322	2,357	27,861	28,289
Computer Programmers II	15,948	2,549	2,541	30,584	30,488
Computer Programmers III	11,411	2,869	2,870	34,425	34,440
Systems Analysts Manager I	2,368	4,636	4,630	55,630	55,564
Systems Analysts Manager II	1,892	5,242	5,181	62,902	62,175
Systems Analysts Manager III	809	6,074	5,917	72,888	71,000
Systems Analysts Manager IV	92	7,282	7,333	87,388	88,000
Systems Analysts I	12,452	2,907	2,827	34,883	33,922
Systems Analysts II	21,359	3,403	3,350	40,838	40,205
Systems Analysts III	14,359	4,054	4,009	48,651	48,108
Systems Analysts IV	5,063	4,793	4,718	57,512	56,616
Systems Analysts V	776	5,793	5,835	69,520	70,026

SOURCE: American Chemical Society, *Chemical and Engineering News*, Vol. 63, No. 27, July 8, 1985, p. 32; Vol. 65, No. 26, June 29, 1987, p. 33; Vol. 67, No. 27, July 3, 1989, and *Salaries 1989*, July, 1989; Salaries 1990, July 1990

TABLE 78

MEDIAN ANNUAL SALARIES OF CHEMISTS* AND CHEMICAL ENGINEERS* OF ALL EXPERIENCE LEVELS BY DEGREE, 1973-1990

YEAR	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	Ph. D.	B.S.	M.S.	Ph. D.
1973	$16,800	$17,500	$20,500	$20,200	$22,000	$23,100
1974	15,500	18,400	21,700	21,300	22,400	24,800
1975	19,000	19,800	23,000	24,000	25,000	26,000
1976	19,800	20,500	24,700	26,000	24,000	29,000
1977	21,000	22,000	26,000	28,000	30,000	30,000
1978	22,000	24,000	27,400	30,000	32,000	32,000
1979	23,500	25,000	29,000	31,700	31,500	35,000
1980	25,000	26,000	31,200	35,000	35,000	38,000
1981	27,500	30,000	35,000	36,000	40,000	42,000
1982	28,500	31,600	37,500	40,000	42,000	45,000
1983	30,000	33,000	40,000	40,000	41,900	48,500
1984	30,900	34,000	42,000	39,995	46,000	54,700
1985	32,000	36,000	44,000	38,200	41,050	55,900
1986	33,000	37,900	47,800	43,900	48,000	59,400
1987	33,500	39,000	47,700	47,100	51,000	61,000
1988	35,400	41,000	50,000	47,700	50,900	62,900
1989	37,000	43,000	52,500	47,700	53,000	64,700
1990	39,000	45,000	55,000	49,400	55,000	65,000

*Includes only members of the American Chemical Society

Source: American Chemical Society, *Women Chemists 1990, December 1990*

TABLE 79

MEAN SALARIES OF CHEMISTS* EMPLOYED IN INDUSTRY FULL-TIME BY HIGHEST DEGREE, SEX AND YEARS SINCE B.S. 1990

YEARS SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	Men	Women	Men	Women	Women	Total
0-1	$27,330	$26,500	$	$	$	$
2-4	29,415	29,000	33,450	33,000		
5-9	35,000	33,000	36,840	35,820	47,000	46,530
10-14	41,500	37,500	43,450	43,000	52,000	50,300
15-19	45,550	41,340	48,800	46,000	59,200	57,793
20-24	50,000	44,916	53,000	48,000	65,250	60,000
25-29	54,600	41,650	56,000	46,150	72,000	60,000
30-34	56,320	44,034	60,000	45,000	73,000	58,200
35-39	57,000	44,330	61,600	51,000	76,000	62,000
> = 40	60,000	53,014	62,000	50,000	75,000	69,556
All Years	46,400	39,700	52,400	46,600	66,200	58,800

* Includes only members of the American Chemical Society. NOTE: Blanks indicate fewer than 15 respondents

Source: American Chemical Society, *Salaries 1990*- Analysis of The American Chemical Society's 1989 Survey of Salaries and Employment, July 1990

TABLE 80

MEAN ANNUAL SALARIES OF CHEMISTS* EMPLOYED FULL-TIME BY TYPE OF EMPLOYER, DEGREE LEVEL AND SEX, 1990

TYPE OF EMPLOYER	DEGREE LEVEL AND SEX								
	BACHELOR'S			MASTER'S			Ph. D.		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Private Industry	$46,400	$39,700	$43,600	$52,400	$46,600	$50,500	$66,200	$58,800	$65,100
Government	40,900	37,100	39,200	45,100	42,700	43,900	47,000	50,800	56,000
Academic	33,100	25,500	30,400	38,700	32,200	36,000	50,500	42,600	49,100
Other Non-Academic	46,200	36,500	43,300	51,000	44,000	48,300	66,000	55,500	64,400

* Includes only members of the American Chemical Society.

NOTE; As of March 1, 1990, to facilitate comparison, women's salaries are adjusted for the difference in average length of experience between them and men.

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 81

MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY WORK FUNCTION AND DEGREE LEVEL, 1990

WORK FUNCTION	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Management R&D	$59,200	$61,484	$60,000	$62,563	$75,000	$79,772
Basic Research	32,500	35,345	42,000	43,724	55,025	58,679
Applied Research	37,713	40,455	45,000	47,207	55,000	57,840
General Management	51,000	58,203	58,167	65,671	78,750	90,822
Marketing	45,000	47,845	52,000	53,278	61,000	63,184
Production	36,502	38,401	42,500	44,784	55,000	56,202
Health and Safety	42,450	46,105	49,500	52,617	65,000	68,971
Forensics	32,000	34,187	40,000	41,176	54,100	55,101
Chemistry Info. Services	40,000	44,066	47,000	49,354	58,100	62,961
Computers	43,500	44,467	50,000	49,013	55,000	55,772
Consulting	42,000	46,833	45,000	47,515	58,016	66,058
Other	38,860	41,649	49,500	51,764	65,000	68,381

* Includes only members of the American Chemical Society.

SOURCE: American Chemical Society, *Women Chemists 1990*, December 1990

TABLE 82

MEDIAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY WORK FUNCTION, DEGREE LEVEL, AND SEX, 1990

WORK FUNCTION	BACHELOR'S		MASTER'S		Ph. D.	
	Men	Women	Men	Women	Men	Women
Management R&D	$60,000	$46,750	$60,900	$55,000	$75,000	$64,350
Basic Research	34,000	31,604	43,000	37,900	56,000	50,000
Applied Research	40,000	33,500	47,000	39,850	56,000	50,000
General Management	53,991	39,600	59,000	52,000	80,000	63,000
Marketing	48,000	36,000	52,000	48,000	63,000	52,000
Production	38,896	31,970	44,000	39,250	55,794	47,424
Forensics	33,332	30,475				
Health and Safety	46,100	40,000	51,600	44,650	66,000	55,200
Chemistry Info. Services			52,000	45,030		
Other	44,000	36,750	47,500	40,000	59,100	51,400

* Includes only members of the American Chemical Society. NOTE: Blanks indicate fewer than 15 respondents

SOURCE: American Chemical Society, Salaries 1990 - *Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 83

MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY TYPE OF WORK SPECIALTY AND DEGREE LEVEL, 1990

WORK SPECIALTY	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Biochemistry	$35,100	$39,441	$42,000	$46,740	$58,250	$64,125
Biotechnology	34,875	38,786	44,000	48,460	60,000	65,753
General Chemistry	40,000	45,175	47,500	49,428	68,000	75,130
Agricultural Chemistry	35,862	40,681	48,000	52,215	59,000	64,131
Analytical Chemistry	37,500	39,921	44,124	46,886	56,000	59,027
Clinical Chemistry	38,000	40,144	52,700	54,341	58,648	64,041
Environmental Chemistry	37,896	40,930	45,000	47,622	61,700	64,531
Inorganic Chemistry	40,850	44,166	50,880	52,499	57,102	60,325
Materials Science	42,000	46,419	50,640	53,974	62,000	66,907
Medicinal/Pharmaceutical Chemistry	37,300	41,741	43,000	47,007	60,000	67,466
Organic Chemistry	40,000	43,671	46,000	49,776	59,000	62,864
Physical Chemistry	43,650	47,448	51,310	55,276	60,204	64,560
Polymer Chemistry	43,000	46,858	50,000	52,324	61,710	65,929
Other Chemical Sciences	40,000	44,362	50,700	51,713	60,000	63,828
Business Administration	60,180	68,269	63,000	69,357	80,000	90,757
Other Non-Chemistry	46,150	49,683	55,000	58,178	68,320	73,860

* Includes only members of the American Chemical Society.

SOURCE: American Chemical Society, *Women Chemists 1990,* December 1990.

TABLE 84

MEDIAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY TYPE OF WORK SPECIALTY, DEGREE LEVEL, AND SEX, 1990

WORK SPECIALTY	BACHELOR'S		MASTER'S		Ph. D.	
	Men	Women	Men	Women	Men	Women
Biochemistry	$37,000	$33,000	$43,100	$38,000	$60,000	$51,200
Biotechnology	42,000	31,000	44,000	41,350	60,000	52,000
General Chemistry	42,000	30,800	50,000	43,150	69,000	50,000
Agricultural Chemistry	41,000	30,000	50,000	43,000	60,000	52,000
Analytical Chemistry	40,000	33,800	46,000	40,000	57,000	50,000
Clinical Chemistry	44,900	31,000	52,700	52,000	60,000	47,300
Environmental Chemistry	40,000	34,800	47,700	39,595	63,000	52,800
Inorganic Chemistry	43,000	31,394	51,500	40,000	58,000	51,240
Materials Science	45,000	35,900	52,000	43,000	63,000	52,000
Medicinal/Pharmaceutical Chemistry	40,700	34,300	45,250	39,000	61,500	54,200
Organic Chemistry	42,000	32,000	48,500	40,000	60,000	50,000
Physical Chemistry	45,000	39,000	57,000	39,000	61,400	51,272
Polymer Chemistry	47,000	35,000	52,000	41,500	62,750	50,250
Other Chemical Sciences	42,250	36,036	52,500	44,724	63,000	49,674
Business Administration	62,300	41,584	65,000	53,000	80,000	63,600
Other Non-Chemistry	49,250	38,100	58,345	50,000	69,000	62,000

* Includes only members of the American Chemical Society.

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment,* July 1990.

TABLE 85

MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED IN INDUSTRY FULL-TIME BY TYPE OF INDUSTRY AND DEGREE LEVEL, 1990

TYPE OF INDUSTRY	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Aerospace	$43,700	$48,554	$48,930	$52,521	$60,944	$64,642
Agricultural Chemicals	37,500	41,154	46,000	48,069	57,956	61,700
Biochemical Products	34,400	38,057	44,000	48,941	56,000	63,731
Basic Chemicals	45,300	49,737	49,400	52,112	60,000	65,211
Specialty Chemicals	40,000	44,582	50,000	52,364	60,000	64,681
Coatings	40,500	45,023	48,000	48,589	57,000	60,809
Electronics	42,215	46,066	49,440	50,709	61,000	65,865
Food	38,925	42,664	47,000	50,440	63,000	67,183
Glass	37,650	69,713	45,750	51,965	60,600	65,932
Steel or Ferrous Metals	42,000	47,023	45,000	47,058	50,400	50,953
Other Metals, Minerals	40,000	43,554	49,900	50,445	55,000	63,293
Paper	42,000	44,160	45,828	51,247	60,000	61,359
Petroleum	43,750	48,447	52,750	56,530	67,000	71,624
Pharmaceuticals	37,600	41,037	44,000	47,738	60,000	66,203
Plastics	43,560	47,746	51,860	53,741	62,000	65,901
Rubber	47,000	48,682	49,096	52,484	60,200	63,554
Soaps	39,000	43,569	50,000	51,606	55,500	60,785
Non-Manufacturing	35,820	40,695	45,000	49,062	59,000	63,865
Other Manufacturing	40,000	42,606	48,250	51,674	60,550	65,623

* Includes only members of the American Chemical Society.

SOURCE: American Chemical Society, *Women Chemists 1990*. December 1990

TABLE 86

MEDIAN SALARIES OF FULL-TIME CHEMISTS* EMPLOYED IN INDUSTRY BY TYPE OF INDUSTRY, DEGREE LEVEL, AND SEX, 1990

TYPE OF INDUSTRY	BACHELOR'S		MASTER'S		Ph. D.	
	Men	Women	Men	Women	Men	Women
Aerospace	$46,800	$35,952	$51,012	$43,560	$64,500	$51,500
Agricultural Chemicals	42,000	31,485	48,000	36,000	58,150	50,400
Biochemical Products	41,200	29,550	44,500	40,412	56,000	52,000
Basic Chemicals	49,700	39,000	52,300	43,840	61,000	50,000
Specialty Chemicals	43,000	33,950	51,500	42,000	60,000	49,200
Coatings	42,180	35,300	49,000	37,301	58,000	46,560
Electronics	45,000	39,000	50,000	42,750	62,000	55,500
Food	42,000	33,000	48,5[illegible]	39,988	63,700	54,800
Petroleum	48,000	38,000	56,000	41,520	69,090	52,344
Pharmaceuticals	40,100	34,000	45,835	40,400	60,500	53,500
Plastics	48,000	31,900	53,400	41,740	63,000	50,000
Non-Manufacturing	38,300	31,500	46,000	40,000	60,000	53,000
Other Manufacturing	42,500	35,000	50,400	42,000	61,000	50,000

* Includes only members of the American Chemical Society.

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment,* July 1990.

TABLE 87

MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY NUMBER OF SUBORDINATES AND DEGREE LEVEL, 1990

TOTAL SUBORDINATES	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
None	$34,720	$37,434	$42,000	$43,906	$52,000	$56,213
1 - 2	40,000	42,149	46,500	48,291	55,100	58,024
3 - 9	43,000	46,379	50,000	51,248	61,450	64,150
10 - 14	47,500	50,075	56,000	59,990	70,000	71,435
15 - 29	53,200	56,419	60,000	62,529	75,000	78,837
30 - 49	57,000	61,399	65,000	65,448	84,500	87,126
50 - 99	61,441	70,129	72,000	74,830	96,000	98,391
100 - or more	70,808	73,798	87,350	95,581	115,000	128,631

* Includes only members of the American Chemical Society.

SOURCE. American Chemical Society, *Women Chemists 1990.* December 1990

TABLE 88

MEDIAN AND MEAN SALARIES OF FULL-TIME CHEMISTS* EMPLOYED IN INDUSTRY BY NUMBER OF SUBORDINATES, DEGREE LEVEL, AND SEX 1990

TOTAL SUBORDINATES	BACHELOR'S		MASTER'S		Ph. D.	
	Men	Women	Men	Women	Men	Women
None	$36,300	$31,770	$43,150	$37,600	$53,000	$48,000
1 - 2	42,000	35,000	48,000	41,890	56,000	50,000
3 - 9	45,000	37,000	50,350	43,700	62,000	55,825
10 - 14	50,000	38,001	58,000	45,600	70,000	63,300
15 - 29	55,440	38,000	60,000	52,450	75,480	70,000
30 or More	65,000	38,000	73,000	72,000	95,000	75,000

* Includes only members of the American Chemical Society.

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 89

MEDIAN AND MEAN SALARIES OF FULL-TIME CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY DEGREE LEVEL, SUPERVISORY STATUS AND YEARS SINCE B. S., 1990

SUPERVISORY STATUS & YEARS. SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
NON-SUPERVISORS TOTAL	**$35,000**	**$37,353**	**$42,190**	**$44,426**	**$53,000**	**$56,036**
0-1	27,000	27,079				
2-4	28,800	28,940	33,000	32,525		
5-9	33,500	33,774	35,620	35,773	46,000	45,987
10-14	37,500	38,220	41,000	41,582	49,500	49,574
15-19	40,700	41,427	45,000	45,338	55,000	55,157
20-24	45,000	45,450	49,038	48,477	58,040	60,051
25-29	47,500	48,028	51,000	52,438	62,000	63,337
30-34	49,500	49,737	53,000	53,524	65,000	65,963
35-39	50,00	51,054	53,250	56,055	65,000	69,203
40 or more	53,014	52,464	55,000	57,107	66,200	67,630
SUPERVISORS TOTAL	48,000	52,057	54,000	57,370	65,000	71,060
2-4	32,000	32,421				
5-9	37,000	37,751	40,000	40,955	48,000	49,153
10-14	44,800	45,737	47,000	48,342	55,00	55,736
15-19	49,700	52,238	52,250	53,875	60,400	63,209
20-24	54,000	57,818	58,500	60,783	69,400	71,924
25-29	58,000	60,686	60,000	62,476	75,000	80,578
30-34	61,880	66,337	62,000	66,094	79,200	85,152
35-39	62,000	68,524	65,850	70,467	82,500	88,902
40 or more	63,000	73,755	64,750	77,303	84,000	93,472

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 90

MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY GEOGRAPHIC REGION AND DEGREE LEVEL, 1990

GEOGRAPHIC REGION	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Pacific	$42,000	$46,541	$47,000	$51,586	$61,000	$66,324
Mountain	40,135	42,542	42,288	44,913	55,671	59,784
West North Central	36,100	38,995	45,720	48,036	58,000	62,995
West South Central	42,780	45,954	47,000	50,802	60,000	64,965
East North Central	39,000	42,593	46,300	49,491	59,000	63,421
East South Central	37,000	40,469	46,000	47,732	59,400	62,396
Middle Atlantic	40,000	44,374	48,050	51,782	61,000	67,160
South Atlantic	40,000	43,612	48,000	50,387	59,510	64,051
New England	39,000	44,659	50,000	52,008	60,550	66,473

* Includes only members of the American Chemical Society.

TABLE 91

MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY SELECTED METROPOLITAN AREAS AND DEGREE LEVEL, 1990

METROPOLITAN AREA	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Atlanta	$38,500	$45,095	$45,000	$ 50,853	$61,700	$65,494
Baltimore	42,500	43,726	46,099	47,019	57,800	62,672
Boston	36,875	43,768	50,000	52,370	59,000	64,710
Chicago	39,000	43,101	46,930	50,617	59,000	63,609
Cincinnati	39,800	42,073	45,000	50,106	60,000	63,598
Cleveland - Akron	47,160	48,578	51,750	56,294	58,500	65,334
Columbus	42,200	45,833	42,000	44,542	61,430	63,502
Dallas	39,000	41,215	46,800	49,598	59,000	62,182
Dayton	36,000	37,048	49,000	48,524	58,398	60,470
Denver	37,100	42,341	44,000	46,701	58,800	64,516
Detroit	40,000	41,704	45,000	47,167	61,000	65,716
Houston - Beaumont	48,000	50,108	46,100	51,003	60,650	66,303
Los Angeles	44,050	50,558	50,000	52,504	63,340	67,612
Miami	36,000	38,025				
Newark	42,000	46,576	49,038	52,385	64,112	71,101
New York	40,000	46,773	50,000	56,714	69,400	75,772
Philadelphia	40,000	43,647	47,500	50,723	60,400	63,982
Pittsburgh	41,000	44,890	48,600	48,534	56,000	61,868
St. louis	36,500	39,566	43,500	44,713	56,100	62,093
San Francisco	44,000	47,113	50,000	52,985	62,590	68,557
Washington, DC	41,500	43,929	49,600	51,773	58,150	64,148

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 92

MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY BY SELECTED STATES AND DEGREE LEVEL, 1990

SELECTED STATES	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Alabama	$37,000	$40,758	$	$	$50,500	$55,360
Arizona	40,500	44,108			60,000	65,319
Arkansas	33,000	38,117	40,000	45,557	53,000	56,959
California	43,000	47,134	48,000	52,697	62,000	67,468
Colorado	39,000	42,121	44,000	46,703	59,160	62,224
Connecticut	41,100	49,042	51,000	51,974	62,500	68,814
Delaware	44,700	49,125	49,600	52,516	62,100	67,555
District of Columbia					63,000	64,256
Florida	36,550	41,050	52,201	54,882	56,000	59,654
Georgia	38,500	43,664	45,000	49,833	60,060	65,995
Illinois	39,000	43,276	46,300	50,155	58,600	63,242
Indiana	38,600	42,500	44,800	47,681	58,100	62,665
Iowa	33,500	36,272	47,000	46,260	58,000	66,706
Kansas	33,000	35,733	40,200	40,628	55,100	56,847
Kentucky	37,500	40,475	44,910	48,454	60,000	62,535
Louisiana	47,450	48,162	48,633	53,026	65,250	67,888
Maryland			47,197	48,454	55,900	62,346
Massachusetts	37,876	43,128	50,000	53,129	60,000	65,118
Michigan	39,825	41,864	46,825	49,032	59,250	63,820
Minnesota	38,000	42,382			60,060	66,256
Mississippi	34,500	36,423				
Missouri	36,600	39,421	45,000	46,762	56,000	61,349
Nebraska	34,000	35,847				
New Hampshire			43,000	47,254	62,026	69,758
New Jersey	41,000	46,341	49,000	52,640	70,000	73,088
New Mexico					57,150	61,169
New York	40,800	44,466	49,000	52,951	62,000	67,506
North Carolina	37,685	42,762	45,240	48,604	57,000	61,829
Ohio	40,000	43,383	48,300	51,065	60,000	63,343
Oklahoma	49,240	49,898	45,710	52,150	64,000	65,861
Oregon	39,400	39,344	40,500	41,914	52,200	55,193
Pennsylvania	39,474	41,913	47,000	49,133	59,325	62,728
Rhode Island	36,000	40,497				
South Carolina	42,000	45,097	50,000	51,707	58,260	61,558
Tennessee	39,000	41,246	46,500	47,727	60,000	65,353
Texas	42,050	45,641	47,800	50,666	60,000	64,227
Utah	42,800	41,556			50,200	52,645
Virginia	40,000	43,402	50,000	49,998	60,250	64,239
Washington	35,000	43,684	46,700	48,990	52,000	58,152
West Virginia	36,015	39,112			55,260	57,553
Wisconsin	38,916	40,125	42,700	45,637	57,000	64,505

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

SOURCE. American Mathematical Society, *NOTICES, Vol. 37, No. 9, November 1990*

TABLE 93

MEDIAN SALARIES FOR MATHEMATICS PH.D.'S WITH ONE YEAR OF EXPERIENCE BY TYPE OF EMPLOYER AND SEX, 1990

TYPE OF EMPLOYER	MEN	WOMEN
Teaching or Teaching & Research		
9 Months	$32,000	$32,500
12 Months	33,800	40,000
Research		
9 Months	30,000	
12 Months	30,000	36,500
Business & Industry (12 Months)	47,000	46,500
Government (12 Months)	35,000	37,800

SOURCE: Statistics Compiled by MLA Resources, Inc. for the American Association of Petroleum Geologists and reprinted in *Geotimes*, June, 1991

TABLE 94

AVERAGE SALARIES OF GEOLOGISTS BY DEGREE LEVEL AND YEARS OF EXPERIENCE, 1990

YEARS OF EXPERIENCE	ALL DEGREES	DEGREE LEVEL		
		Bachelor's	Master's	Ph. D.
0-2	$41,900	$36,700	$42,100	$46,300
3-5	45,100	41,500	45,400	59,900
6-9	53,600	51,300	52,900	67,200
10-19	71,700	70,100	72,300	81,100
20 +	92,500	91,800	94,000	85,000

NOTE: Blanks indicate no data available

SOURCE: American Psychological Association, *Salaries in Psychology, 1989,* February 1990.

TABLE 95

MEDIAN SALARIES OF PSYCHOLOGISTS BY TYPE OF POSITION AND SELECTIVE METROPOLITAN AREA, 1989

METROPOLITAN AREA	Faculty	Independent Practice
Atlanta	$40,000	$76,000
Cleveland	37,409	64,000
Columbus	39,273	50,000
Dallas / Fort Worth	36,409	71,000
Denver	44,000	51,500
Greensboro	36,909	48,500
Houston	39,000	45,000
Los Angeles	46,000	61,056
Manchester, NH		54,000
Miami	39,000	60,000
Milwaukee		60,000
Minneapolis / St. Paul	40,636	54,000
Nashville	36,136	
Philadelphia	43,364	46,500
Phoenix	46,000	52,500
Pittsburgh	41,000	49,500
Portland		60,000
Raleigh / Durham	43,227	60,000
Richmond	40,000	60,000
St. Louis	45,000	57,500
San Diego	45,000	56,222
San Francisco	65,045	62,000
Seattle	35,500	65,000
Washington DC	42,000	68,000

Salaries for faculty are on a 9 to 10 month basis; While those for independent practitioners Salaries are on a 11 to 12 month basis.
Blanks indicate insufficient responses.

SOURCE: American Psychological Association, *Salaries in Psychology, 1989*, February 1990.

TABLE 96

MEDIAN SALARIES OF DOCTORAL-LEVEL PSYCHOLOGISTS* BY TYPE OF POSITION AND REGION, 1989

TYPE OF POSITION	REGION								
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
EDUCATIONAL ADMIN.	$51,056	$65,000	$56,000	$	$61,000	$	$	$	$62,000
RESEARCH		59,500	46,000		51,000				50,000
RESEARCH ADMIN.	57,500	66,000	58,000		57,500				58,500
INDEPENDENT PRACTICE	60,000	70,000	65,000	55,000	70,000	63,000	70,000	61,000	72,000
DIRECT SERVICES-OTHER SETTINGS	45,000	46,000	45,000	44,000	45,000	43,000	40,000	44,500	46,000
FACULTY IN UNIVERSITIES	43,000	46,000	40,955	42,000	42,000	39,136	38,000	43,682	49,045
FACULTY-OTHER SETTINGS	41,000	40,909	36,000	34,000	37,318	36,808	33,000	44,500	39,000
SERVICE ADMIN.	51,000	51,000	50,000	51,000	50,000	47,000	48,000	50,000	49,000
APPLIED PSYCHOLOGY (Industrial/Org. Psych.)		68,000	67,500	85,000	57,500				60,000
APPLIED PSYCHOLOGY (Other Psychology)									55,500
ADMINISTRATION OF APPLIED PSYCHOLOGY		72,000			61,500				68,000
OTHER ADMINISTRATIVE		60,000			60,000				
OTHER POSITIONS		47,000			57,500				67,500

*Members of the American Psychological Association.

NOTE: Blanks indicate insufficient number of respondents. All Salaries are reported for 11-12 month periods, with the exception of faculty salaries that are for 9-10 months. Converting 9-10 month to 11-12 month periods can be done by multiplying by 11/9.

SOURCE: American Psychological Association, *Salaries in Psychology, 1989, Feburary 1990.*

TABLE 97

MEDIAN AND MEAN SALARIES OF DOCTORAL-LEVEL PSYCHOLOGISTS+ ON 11-12 MONTH BASIS BY TYPE OF POSITION AND YEARS OF WORK EXPERIENCE, 1989

TYPE OF POSITION	Overall	YEARS OF WORK EXPERIENCE						
		2-4	5-9	10-14	15-19	20-24	25-29	30 +
EDUCATIONAL ADMINISTRATION								
Median	$59,000	$	$	$55,000	$57,222	$60,000	$72,000	$70,000
Mean				55,947	61,764	60,489	70,994	70,000
RESEARCH								
Median	50,000		43,500	50,000	60,000	58,667		
Mean			45,533	52,875	62,000	64,590		
RESEARCH ADMINISTRATION								
Median	58,000		51,000	55,000	60,000	64,000	70,000	
Mean			49,250	63,667	62,857	70,455	83,808	
DIRECT HUMAN SERVICES (Licensed Only)								
Median	55,000	42,000	50,000	60,000	60,500	60,000	53,000	62,778
Mean		45,582	56,265	67,620	67,942	69,976	63,766	72,231
DIRECT HUMAN SERVICES* (Licensed and Not Licensed)								
Median	36,000	26,000	30,000	38,000	37,000	42,778	47,333	45,000
Mean		27,364	32,234	41,242	40,616	44,504	48,160	47,111
ADMINISTRATION OF HUMAN SERVICES								
Median	50,000	39,500	46,000	50,000	52,500	58,500	53,000	56,111
Mean		42,077	49,016	52,609	55,572	60,256	60,629	56,111
APPLIED PSYCHOLOGY (Industrial/org. psych.)								
Median	67,000	40,000	57,000	70,000	70,000	67,500		
Mean		43,727	59,000	84,130	91,200	75,962		
APPLIED PSYCHOLOGY (Other Psychology)								
Median	54,000				56,000			
Mean					60,485			
ADMINISTRATION OF APPLIED PSYCHOLOGY								
Median	65,000		52,500	62,000	73,500	69,000		
Mean			59,214	64,778	75,167	84,035		
OTHER ADMINISTRATIVE								
Median	60,000		48,000	65,000	58,000			
Mean			56,364	63,529	70,611			

+ Members of the American Psychological Association.

NOTE: Blanks indicate fewer than 8 respondents.

*Includes Only Master's Level Psychologists.

SOURCE: American Institute of Physics, *1990 Salaries, Society Membership Survey,* Unpublished

TABLE 98

MEDIAN AND MEAN SALARIES OF PHYSICISTS* BY YEARS SINCE DEGREE, TYPE OF EMPLOYER AND DEGREE LEVEL 1990

TYPE OF EMPLOYER & DEGREE LEVEL	YEARS SINCE DEGREE						
	0-4	5-9	10-14	15-19	20-24	20 +	25 +
INDUSTRY **Ph.Ds.** Median	$50,600	$60,000	$65,000	$75,000	$ 81,300	$	$81,000
Mean	52,100	60,000	67,900	77,900	86,600		93,100
Master's Median	38,000	47,800	55,000	60,000		67,000	
Mean	41,000	49,100	59,000	61,100		77,400	
Bachelor's Median	34,500	40,000	45,000	51,000		65,000	
Mean	35,900	41,700	45,900	53,200		71,900	
GOVERNMENT **Ph.Ds.** Median	42,000	48,000	54,000	60,000	68,000		75,000
Mean	43,700	49,600	54,000	60,800	66,500		70,800
GOVERNMENT **Master's** Median	35,000	42,000	48,500	48,000		56,000	
Mean	36,800	41,900	49,800	48,300		56,700	
UNIVERSITY 11-12 Month **Ph.Ds.** Median	37,000	44,000	54,000	64,000	72,000		77,000
Mean	39,000	48,700	58,100	65,200	73,900		80,300
UNIVERSITY 9-10 Month **Ph.Ds.** Median	35,500	38,000	45,000	51,000	64,000		75,000
Mean	36,800	40,300	46,300	52,700	55,700		64,200
SECONDARY SCHOOL **Master's** Median	28,000	30,000	38,000	36,000		40,000	
Mean	29,600	32,100	37,500	37,600		41,600	
FFR&DC** **Ph.Ds.** Median	50,000	58,000	62,000	70,000	75,300		75,000
Mean	52,500	56,900	61,600	70,400	75,800		78,500

*Members of the AIP Member Societies.

SOURCE: American Institute of Physics, *1990 Salaries, Society Membership Survey*, Unpublished

TABLE 99

1990 SALARIES OF PHYSICISTS* BY TYPE OF EMPLOYER AND DEGREE LEVEL

TYPE OF EMPLOYER	Ph. D.			MASTER'S		
	NO.	MEDIAN	MEAN	NO.	MEDIAN	MEAN
University 9-12 month	1,176	$50,000	$53,300		$	$
11-12 month	848	49,200	53,900			
4- Year College 9-10 month	170	40,000	41,400			
Junior College				56	38,300	38,800
Industry/Self-Employed	1,333	66,100	71,900	458	52,000	58,000
Government	533	57,000	57,700	197	46,400	47,300
FFR&DC**	565	64,500	64,800	59	54,400	57,400
Secondary School				275	36,000	37,100
Nonprofit	155	60,000	61,200	26	42,300	46,200
Hospital	76	63,000	65,500	73	55,000	56,300

* Includes only members of the AIP member societies.

** Federally-funded research and development centers.

TABLE 100

1990 SALARIES OF INDUSTRIAL PH.D. PHYSICISTS* BY YEARS SINCE DEGREE AND PRIMARY WORK ACTIVITY

PRIMARY WORK ACTIVITY	YEARS SINCE DEGREE				
	0-4	5-9	10-14	15-19	20 +
Basic Research Median	$48,400	$61,000	$65,000	$78,000	$82,000
Mean	49,000	60,700	67,900	78,300	83,900
Applied Research Median	51,000	60,000	66,000	74,000	80,000
Mean	52,900	59,700	67,200	75,500	83,200
Development, Design & Engineering Median	50,000	60,000	68,000	73,400	80,000
Mean	50,900	61,300	68,800	74,400	81,100
Administration Median				85,000	110,000
Mean				91,100	121,600

*Members of the AIP Member Societies

SOURCE: American Institute of Physics, *1990 Salaries, Society Membership Survey, Unpublished*

TABLE 101

1990 MEDIAN SALARIES OF PH.D. PHYSICISTS* BY GEOGRAPHIC REGION AND TYPE OF EMPLOYER

GEOGRAPHIC REGION	TYPE OF EMPLOYER		
	Academic	Industry	Other
New England	$49,000	$70,000	$61,300
Middle Atlantic	53,000	67,300	60,000
South Atlantic	47,000	65,000	60,000
East North Central	50,000	62,000	55,000
East South Central	42,000		58,700
West North Central	43,300	60,000	
West South Central	44,000	62,000	55,400
Mountain	44,300	63,000	65,000
Pacific	50,000	70,000	61,000
OVERALL	48,200	66,100	60,600

* Includes only member of the AIP member Societies.

Note: Blanks indicate too few respondents to calculate reliable medians.

TABLE 102

1990 SALARIES OF PH.D. PHYSICISTS* BY GEOGRAPHIC REGION

GEOGRAPHIC REGION	NO.	MEDIAN	MEAN
New England	453	$58,000	$61,300
Middle Atlantic	828	60,000	62,800
South Atlantic	914	55,500	58,200
East North Central	593	53,000	55,600
East South Central	150	52,000	52,700
West North Central	200	48,000	51,400
West South Central	285	52,000	55,200
Mountain	488	60,000	59,500
Pacific	1,112	61,300	65,200

* Includes only members of the AIP member Societies.

SOURCE: American Institute of Physics, *1990 Salaries, Society Membership Survey,* Unpublished

TABLE 103

1990 SALARIES OF Ph. D. PHYSICISTS* BY SELECTED STATES

STATE	Number	Median	Mean
Alabama	34	$55,000	$57,300
Arizona	60	50,300	54,500
California	941	65,000	67,300
Northern	484	65,000	67,800
Southern	457	63,000	66,800
Colorado	135	51,100	54,900
Connecticut	73	55,000	65,300
Delaware	26	61,000	67,300
District of Columbia	156	63,000	61,500
Florida	106	47,800	51,000
Georgia	55	54,000	56,900
Hawaii	22	45,000	50,900
Illinois	198	51,700	55,100
Indiana	76	46,000	51,900
Iowa	41	47,000	51,600
Kansas	22	42,000	50,900
Louisiana	28	50,000	51,500
Maryland	262	55,000	57,600
Massachusetts	299	60,400	63,100
Michigan	109	57,000	58,700
Minnesota	70	52,000	54,000
Mississippi	22	40,500	44,900
Missouri	46	50,000	51,100
New Hampshire	33	48,200	48,500
New Jersey	217	66,000	68,400
New Mexico	219	65,000	66,200
New York	423	59,800	62,800
Northern	207	56,100	58,400
Southern	216	62,900	67,000
North Carolina	75	49,300	52,200
Ohio	138	55,000	58,000
Oklahoma	31	52,700	55,400
Oregon	42	43,000	48,200
Pennsylvania	187	52,500	56,200
Rhode Island	21	59,000	57,300
South Carolina	25	40,000	48,800
Tennessee	74	56,000	54,600
Texas	216	54,000	55,900
Utah	32	59,000	54,500
Virginia	200	60,000	63,700
Washington	92	53,000	55,000
Wisconsin	72	46,600	51,200

* Includes only members of the AIP member societies.

SOURCE: American Institute of Physics, *1990 Salaries, Society Membership Survey,* Unpublished

TABLE 104

1990 SALARIES OF PH.D. PHYSICISTS* BY YEARS SINCE PH.D.

YEARS SINCE PH. D.	NUMBER	MEDIAN	MEAN
0-4	501	$43,800	$44,700
5-9	791	50,800	51,400
10-14	758	57,000	58,100
15-19	811	65,000	65,800
20-24	770	67,000	69,500
25-29	522	70,000	70,000
30 +	527	72,000	76,300

* Includes only members of the AIP member societies.

TABLE 105

1990 SALARIES OF ACADEMIC AND INDUSTRIAL PH.D. PHYSICISTS* BY YEARS SINCE DEGREE AND SEX

YEARS SINCE DEGREE	MALE			FEMALE		
	NO.	MEDIAN	MEDIAN AGE	NO.	MEDIAN	MEDIAN AGE
0 - 4 Academic	179	$36,000	33	30	$33,500	31
Industrial	286	46,000	31	49	41,000	31
5 - 9 Academic	271	41,900	36	40	39,500	36
Industrial	379	55,300	36	40	46,500	34
10 + Academic	1,401	58,300	51	77	45,000	46
Industrial	1,253	70,300	47	55	55,000	41

* Includes only members of the AIP member societies.

SOURCE: Abbott, Langer & Associates, *Compensation in the MIS/dp Field*, 8th Edition, 1991

TABLE 106

NUMBER, MEAN AND MEDIAN SALARIES AND COMPENSATION OF DATA PROCESSING PERSONNEL BY JOB TITLE, 1990

JOB TITLE	SALARY			TOTAL COMPENSATION		
	Number Reported	Mean	Median	Number Reported	Mean	Median
MIS & Data Processing Director	225	$54,502	$52,000	342	$56,806	$54,250
MIS & Data Processing Corporate Director	266	55,281	52,128	266	57,779	54,950
MIS & Data Processing Deputy Director	44	50,496	49,650	44	52,201	49,650
MIS & Data Processing Manager	65	53,265	53,285	65	54,930	54,600
MIS & Data Processing Supervisor	63	38,503	38,952	63	39,511	38,952
MIS Manager	27	56,013	54,000	27	56,938	54,000
MIS Supervisor	35	45,657	44,727	35	47,285	47,660
DP Manager	27	56,227	52,500	27	57,896	55,000
DP Supervisor	37	39,131	38,500	37	40,633	40,000
Senior DP Specialist	57	34,816	34,000	57	35,016	34,224
Intermediate DP Specialist	25	26,678	26,995	25	26,858	26,995
Lead Data Base Specialist	20	46,611	45,097	20	46,791	45,097
Senior Data Base Specialist	34	41,008	42,000	34	41,509	42,830
Intermediate Data Base Specialist	23	35,470	37,700	23	35,513	37,700
Lead Systems Analysis / Systems Programmer	21	40,156	43,000	21	40,751	43,500
Senior Systems Analyst/Systems Programmer	61	38,843	36,246	61	39,275	36,246
Intermediate Systems Analyst/Systems Programmer	22	33,694	33,241	22	33,743	33,241
Systems Analysis/Applications Programming Manager	30	57,280	57,000	30	58,387	58,245
Systems Analysis/Applications Programming Supervisor	138	44,872	45,619	138	45,280	45,678
Lead Systems Analyst/Applications Programmer	160	40,408	40,960	160	41,026	41,294
Senior Systems Analyst/Applications Programmer	482	38,023	38,000	482	38,490	38,232
Intermediate Systems Analyst/Applications Programmer	333	32,620	32,077	333	33,011	32,700
Junior Systems Analyst/Applications Programmer	72	29,027	28,141	72	29,399	28,297
Systems Analysis/Applications Programming Trainee	25	25,294	23,000	25	25,385	23,000
Lead Systems Analyst	72	37,783	37,149	72	37,951	37,451
Senior Systems Analyst	74	38,333	38,936	74	38,541	39,058
Intermediate Systems Analyst	34	32,972	33,175	34	33,109	33,905
Systems Programming Supervisor	29	48,854	47,260	29	49,349	47,968
Lead Systems Programmer	57	39,244	38,571	57	39,362	38,571
Senior Systems Programmer	106	42,089	42,000	106	42,417	42,000
Intermediate Systems Programmer	54	37,465	36,148	54	37,695	36,435
Applications Programming Supervisor	29	39,937	40,000	29	40,523	40,300
Lead Applications Programmer	69	41,107	42,000	69	41,225	42,240
SeniorApplications Programmer	176	33,204	33,410	176	33,503	33,764
Intermediate Applications Programmer	273	29,211	29,016	273	29,572	29,048
Junior Applications Programmer	165	25,570	25,000	165	25,631	25,140
Applications Programmer Trainee	28	21,525	20,900	28	21,620	20,900
Technical Writer	20	25,960	26,820	20	26,145	26,820
User Support/Liaison/Coordination Supervisor	33	37,587	35,000	33	38,177	35,000
Lead User Support/Liaison/Coordination Specialist	38	32,701	33,000	38	33,289	33,405
Senior User Support/Liaison/Coordination Specialist	67	33,724	32,268	67	34,041	32,268
Intermediate User Support/Liaison/Coordination Specialist	95	27,118	26,600	95	27,259	26,600
Telecommunications Supervisor	23	37,324	33,000	23	37,522	33,000
Lead Telecommunications Specialist	19	34,538	32,714	19	35,066	32,714
Senior Telecommunications Specialist	55	32,742	31,366	55	32,992	31,775
Intermediate Telecommunications Specialist	51	28,151	27,000	51	28,323	27,040
Computer Operations Manager	28	45,260	46,800	28	46,171	47,132
Data I/0 Control Supervisor	23	32,153	32,000	23	32,296	32,000
Computer Operations Supervisor	126	31,495	30,482	126	31,795	30,482
Lead Computer Operator	106	24,666	23,468	106	24,990	23,785
Senior Computer Operator	254	22,969	22,384	254	23,178	22,461
Intermediate Computer Operator	373	20,489	19,578	373	20,566	19,606
Senior Data Entry Operator	36	18,265	17,638	36	18,374	17,713
Intermediate Data Entry Operator	90	16,669	16,678	90	16,843	16,881

Blanks Indicate too few individuals for data to be Meaningful.

SOURCE: Abbott, Langer & Associates, *Compensation in the MIS/dp Field*, 8th Edition, 1991

TABLE 107

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND TYPE OF EMPLOYER, 1990

JOB TITLE	TYPE OF EMPLOYER			
	All Mfg./ Extractive Employers	All Non-Mfg. Employers	Educational Institutions	State & Local Government
MIS & Data Processing Director	$52,750	$51,000	$48,792	$47,894
MIS & Data Processing Corporate Director	52,000	52,300	48,585	45,051
MIS & Data Processing Deputy Director	52,000	47,000	34,378	53,007
MIS & Data Processing Manager	50,000	54,600		52,320
MIS & Data Processing Supervisor	40,448	37,212	34,500	40,498
MIS Manager	65,298	53,883		48,000
MIS Supervisor	51,970	42,540	42,540	40,747
DP Manager	62,608	50,666		
DP Supervisor	40,250	38,500	41,300	37,089
Senior DP Specialist	34,857	33,355	29,500	31,060
Intermediate DP Specialist	26,995	27,066		26,632
Lead Data Base Specialist	45,240	44,954	37,157	
Senior Data Base Specialist	44,200	42,830		41,558
Intermediate Data Base Specialist	34,740	37,710		
Systems Analyst / Systems Programmer		40,500	46,000	41,253
Senior Systems Analyst/Systems Programmer	46,244	33,500	31,700	34,676
Intermediate Systems Analyst/Systems Programmer	37,683	32,700	33,000	34,907
Systems Analysis/Applications Programming Manager	52,250	57,245		57,163
Systems Analysis/Applications Programming Supervisor	48,300	45,209	40,927	45,609
Lead Systems Analyst/Applications Programmer	40,710	41,037	36,568	40,392
Senior Systems Analyst/Applications Programmer	38,457	37,842	32,579	35,792
Intermediate Systems Analyst/Applications Programmer	33,000	32,000	25,827	32,000
Junior Systems Analyst/Applications Programmer	27,500	28,297	24,762	25,851
Systems Analysis/Applications Programming Trainee		23,000	25,530	
Lead Systems Analyst	43,000	36,000		36,397
Senior Systems Analyst	41,160	38,896	40,000	31,039
Intermediate Systems Analyst	39,500	30,654		35,570
Systems Programming Supervisor	49,750	47,260	42,213	46,239
Lead Systems Programmer	42,650	38,478	31,662	36,469
Senior Systems Programmer	40,000	42,000	32,929	39,599
Intermediate Systems Programmer	31,800	38,000	31,800	34,999
Applications Programming Supervisor	43,800	38,00	41,326	32,662
Lead Applications Programmer	43,500	39,250		
SeniorApplications Programmer	34,860	32,885	33,400	27,767
Intermediate Applications Programmer	28,000	29,038	25,621	28,073
Junior Applications Programmer	26,000	24,650	24,000	25,281
Applications Programmer Trainee	23,655	20,685		21,072
Technical Writer		26,820	17,460	29,124
User Support/Liaison/Coordination Supervisor	35,825	35,000	30,750	36,810
Lead User Support/Liaison/Coodination Specialist	38,000	33,000	32,987	33,000
Senior User Support/Liaison/Coordination Specialist	28,380	34,072	26,975	40,022
Intermediate User Support/Liaison/Coordination Specialist	23,500	27,696	25,100	29,652
Telecommunications Supervisor		34,000	28,173	42,640
Lead Telecommunications Specialist	34,600	31,879	41,963	28,464
Senior Telecommunications Specialist	33,187	31,366	25,000	28,398
Intermediate Telecommunications Specialist	30,576	26,624	25,186	23,221
Computer Operations Manager	47,788	45,000		46,074
Data I/0 Control Supervisor	35,700	27,876	19,069	25,752
Computer Operations Supervisor	32,000	30,051	33,228	34,000
Lead Computer Operator	24,066	23,388	24,000	27,204
Senior Computer Operator	21,240	22,750	22,125	24,852
Intermediate Computer Operator	18,735	19,963	17,830	19,963
Senior Data Entry Operator	17,440	17,794	17,909	17,094
Intermediate Data Entry Operator	16,100	16,950	19,000	18,000

Blanks indicate too few individuals for data to be meaningful.

SOURCE: Abbott, Langer & Associates, *Compensation in the MIS/dp Field*, 8th Edition, 1991

TABLE 108

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND LEVEL OF EDUCATION, 1990

JOB TITLE	LEVEL OF EDUCATION						
	No College	Some College No Degree	Associate Degree	Bachelor Degree	MA/MS Degree	MBA Degree	Doctoral Degree
MIS & Data Processing Director	$90,180	$47,760	$44,200	$55,250	$48,585	$54,000	$76,500
MIS & Data Processing Corporate Director		49,000	44,600	55,776	47,000	52,000	78,400
MIS & Data Processing Deputy Director		55,000	40,000	51,300	36,776	65,500	
MIS & Data Processing Manager	45,780	58,039	55,037	51,360	50,860	56,478	
MIS & Data Processing Supervisor	37,085	36,000	24,100	42,535	43,000	46,000	
MIS Manager				53,166	56,000	54,000	
MIS Supervisor		35,825	40,000	49,450			
DP Manager		49,500	52,500	63,953			
DP Supervisor	34,967	34,700	38,750	41,300			
Senior DP Specialist	47,682	37,000	29,200	34,224	30,871		
Intermediate DP Specialist			24,500	26,995			
Lead Data Base Specialist				44,587			
Senior Data Base Specialist	49,164	38,750	33,500	42,840			
Intermediate Data Base Specialist	32,930	32,070	36,000	34,740			
Lead Systems Analyst / Systems Programmer		50,000		40,000	46,000		
Senior Systems Analyst/Systems Programmer	45,900	33,500	33,000	34,736			
Intermediate Systems Analyst/Systems Programmer			35,955	32,600			
Systems Analysis/Applications Programming Manager		52,500	46,250	60,868			
Systems Analysis/Applications Programming Supervisor	43,708	47,500	41,500	43,000	45,064	47,220	
Lead Systems Analyst/Applications Programmer	40,500	40,000	44,610	40,392	39,071	45,000	
Senior Systems Analyst/Applications Programmer	36,949	36,899	38,444	36,660	39,000		
Intermediate Systems Analyst/Applications Programmer	32,000	32,640	30,700	32,000	33,000	32,232	
Junior Systems Analyst/Applications Programmer		31,998	26,448	28,609			
Systems Analysis/Applications Programming Trainee			22,632	23,000			
Lead Systems Analyst		36,000		42,000	44,000		
Senior Systems Analyst		40,000	45,976	41,228	42,000		
Intermediate Systems Analyst		29,891	33,150	35,152			
Systems Programming Supervisor		48,632	56,500	44,670			
Lead Systems Programmer		40,000	38,571	42,000			
Senior Systems Programmer	39,915	43,500	43,800	41,891	32,615		
Intermediate Systems Programmer		41,502	41,000	36,000			
Applications Programming Supervisor		38,000		39,500			
Lead Applications Programmer	28,000	42,030	41,380	42,120	45,840		
SeniorApplications Programmer	34,811	33,281	32,600	33,900	36,600		
Intermediate Applications Programmer	32,550	26,400	29,016	29,760	30,371		
Junior Applications Programmer	26,990	23,494	23,038	26,138	27,000		
Applications Programmer Trainee	18,900	19,200	24,378	22,400			
Technical Writer		26,858		29,993			
User Support/Liaison/Coordination Supervisor	28,725		34,250	33,048			
Lead User Support/Liaison/Coodination Specialist	31,758	33,000	33,900	32,857			
Senior User Support/Liaison/Coordination Specialist	25,000	31,463	40,022	32,700	38,700		
Intermediate User Support/Liaison/Coordination Specialist	22,753	23,000	29,430	29,000			
Telecommunications Supervisor	27,924	43,382	32,400	36,324			
Lead Telecommunications Specialist		28,626	29,076	43,140			
Senior Telecommunications Specialist	24,551	31,308	32,035	35,046			
Intermediate Telecommunications Specialist	21,721	27,000	27,266	28,662			
Computer Operations Manager	47,194	49,000	35,500	42,000			
Data I/O Control Supervisor	33,530	32,131		25,752			
Computer Operations Supervisor	30,004	29,687	35,476	34,960			
Lead Computer Operator	21,500	22,183	26,400	25,619			
Senior Computer Operator	20,970	21,562	22,651	23,000			
Intermediate Computer Operator	18,804	19,672	20,360	18,900			
Senior Data Entry Operator	17,909	17,797					
Intermediate Data Entry Operator	16,640	14,523		19,899			

Blanks indicate too few individuals for data to be meaningful.

SOURCE: Abbott, Langer & Associates, *Compensation in the MIS/dp Field*, 8th Edition, 1991

TABLE 109

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND LENGTH OF EXPERIENCE, 1990

JOB TITLE	LENGTH OF EXPERIENCE							
	Under 1 Year	1 or 2 Years	3 or 4 Years	5 - 9 Years	10 - 14 Years	15 - 19 Years	20 - 24 Years	25 or More
MIS & Data Processing Director		$50,000	$41,000	$41,606	$52,000	$50,501	$57,000	$59,132
MIS & Data Processing Corporate Director		57,840	41,000	41,500	52,000	50,000	60,000	56,182
MIS & Data Processing Deputy Director				38,000	54,262	52,000	57,186	48,569
MIS & Data Processing Manager				45,935	45,631	53,270	55,000	60,200
MIS & Data Processing Supervisor			23,000	33,153	37,484	45,000	44,237	48,200
MIS Manager				54,000	48,000	53,767	58,000	63,240
MIS Supervisor				42,408	43,170	39,437	53,500	50,740
DP Manager				43,000		50,250	52,500	84,000
DP Supervisor				38,500	42,100	34,700	41,300	
Senior DP Specialist			27,000	28,650	34,783	42,519	38,088	34,857
Intermediate DP Specialist		24,816	20,796	30,000	31,000			26,995
Lead Data Base Specialist			40,875	44,370				
Senior Data Base Specialist			38,572	34,920	42,840	42,330		
Intermediate Data Base Specialist	26,812		43,686	33,641	41,082			
Lead Systems Analyst / Systems Programmer				40,500	32,121	47,500		
Senior Systems Analyst/Systems Programmer	31,000		33,500	32,750	42,500	36,923		42,000
Intermediate Systems Analyst/Systems Programmer			29,018	32,700	33,482	36,638		
Systems Analysis/Applications Programming Manager				48,497	55,918	62,736		50,250
Systems Analysis/Applications Programming Supervisor			34,480	38,000	45,000	48,056	51,000	45,668
Lead Systems Analyst/Applications Programmer			32,500	37,853	41,438	44,817	43,207	46,358
Senior Systems Analyst/Applications Programmer	39,350	28,600	32,495	36,250	38,220	42,000	43,675	44,980
Intermediate Systems Analyst/Applications Programmer	25,300	28,000	30,000	32,000	37,000	35,880	38,040	
Junior Systems Analyst/Applications Programmer	24,000	26,528	29,235	32,030	35,500			
Systems Analysis/Applications Programming Trainee	23,000			26,359				
Lead Systems Analyst				33,724	38,000	36,693	37,862	41,087
Senior Systems Analyst			30,387	34,570	38,700	40,523		
Intermediate Systems Analyst		26,152		39,500	29,891			
Systems Programming Supervisor				38,859	47,946	50,028	54,326	44,881
Lead Systems Programmer				35,358	40,000	42,847	41,207	
Senior Systems Programmer			31,541	37,045	42,000	43,500	47,364	40,119
Intermediate Systems Programmer		29,872	40,500	40,000	44,952	45,000		
Applications Programming Supervisor				42,750	33,048	38,000		
Lead Applications Programmer	47,820	42,360	42,990	38,760	40,800	47,970		
SeniorApplications Programmer	22,462	32,870	31,183	33,140	34,905	36,255	44,520	35,500
Intermediate Applications Programmer	25,000	25,300	28,228	30,982	33,000	32,150	37,357	
Junior Applications Programmer	23,460	24,895	24,500	28,000	29,650	28,160		
Applications Programmer Trainee	20,900	21,789						
Technical Writer			23,712	28,000				
User Support/Liaison/Coordination Supervisor			37,363	36,700	34,024	37,300	30,842	
Lead User Support/Liaison/Coodination Specialist	27,000			32,714	27,562	39,518		
Senior User Support/Liaison/Coordination Specialist		22,500	26,307	30,000	28,598	37,492		
Intermediate User Support/Liaison/Coordination Specialist	23,250	24,500	26,300	26,640	28,000	28,095		
Telecommunications Supervisor			31,572	38,632	34,000	27,924		
Lead Telecommunications Specialist			26,732	31,044	30,726			
Senior Telecommunications Specialist	26,208		29,437	25,302	34,470	45,222		
Intermediate Telecommunications Specialist		24,170	30,016	27,246	26,812			
Computer Operations Manager				44,300	47,000	39,500	44,821	56,892
Data I/O Control Supervisor			28,176	25,644	43,940		37,060	
Computer Operations Supervisor		32,092	23,920	29,238	29,967	32,105	31,200	46,185
Lead Computer Operator		17,750	19,250	23,750	23,750	24,043	24,960	24,550
Senior Computer Operator	19,405	17,986	21,736	21,000	23,343	25,016	26,000	31,422
Intermediate Computer Operator	16,800	17,460	19,672	20,000	22,124	24,569	27,612	24,174
Senior Data Entry Operator			20,155	17,694	17,192			
Intermediate Data Entry Operator	16,567	12,000	16,000	18,215	16,000	21,140	21,419	

Blanks indicate too few individuals for data to be meaningful.

SOURCE: Abbott, Langer & Associates, *Compensation in the MIS/dp Field*, 8th Edition, 1991

TABLE 110

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND GEOGRAPHICAL AREA, 1990

JOB TITLE	GEOGRAPHICAL AREA						
	North-Eastern States	Southern States	Mid-Western States	North Central States	South Western States	Mountain States	Pacific States
MIS & Data Processing Director	$57,000	$52,378	$50,300	$45,895	$50,000	$48,585	$55,127
MIS & Data Processing Corporate Director	58,000	54,000	48,500	45,895	50,000	45,000	56,000
MIS & Data Processing Deputy Director	51,732	58,440	41,000	47,419	39,757	45,500	54,400
MIS & Data Processing Manager	54,221	53,721	51,160	45,600	50,400	56,280	66,072
MIS & Data Processing Supervisor	46,832	27,600	46,625	32,370		34,296	39,158
MIS Manager	56,000	56,000	50,000				47,364
MIS Supervisor	57,500	37,662	42,900	42,540	47,100		55,348
Lead Data Base Specialist	44,594	44,767					
Senior Data Base Specialist	44,954	39,700	41,840	35,555		42,000	48,706
Intermediate Data Base Specialist		42,511	33,011	26,812	44,880		
Lead Systems Analyst / Systems Programmer	47,500	44,816	40,000				
Senior Systems Analyst/Systems Programmer	40,357	37,600	31,050		34,616		52,558
Intermediate Systems Analyst/Systems Programmer	33,000		35,431	28,968			
Systems Analysis/Applications Programming Manager	54,625	54,860	66,048			52,500	
Systems Analysis/Applications Programming Supervisor	47,595	48,325	45,258	47,840	36,000	32,600	47,366
Lead Systems Analyst/Applications Programmer	42,295	38,750	42,900	34,962	41,036	35,500	48,000
Senior Systems Analyst/Applications Programmer	39,000	39,500	37,400	32,879	35,500	35,622	41,956
Intermediate Systems Analyst/Applications Programmer	31,000	32,077	31,236	30,080	30,686	30,934	35,804
Junior Systems Analyst/Applications Programmer	35,500	25,254	28,590	26,185	30,000		27,888
Systems Analysis/Applications Programming Trainee	23,000			26,359			
Lead Systems Analyst	41,650		36,853	32,292	38,150		
Senior Systems Analyst	45,000	38,896	30,669	40,000	38,605	41,000	45,976
Intermediate Systems Analyst	35,000	29,891	34,611				
Systems Programming Supervisor		50,028	46,443	48,660	41,000		58,390
Lead Systems Programmer		43,144	38,228	35,338	38,849		
Senior Systems Programmer	36,525	43,361	32,929	40,000	46,800	50,750	54,350
Intermediate Systems Programmer	42,625	37,860	31,800	31,800	43,160		31,366
Applications Programming Supervisor	44,500	41,860			34,616		
Lead Applications Programmer		43,620	48,869	39,500	31,056	34,875	
Senior Applications Programmer	34,500	33,420	34,900	28,080	29,410	38,000	34,811
Intermediate Applications Programmer	31,453	27,415	28,000	23,625	30,000	30,300	35,000
Junior Applications Programmer	27,445	26,319	24,000	24,000	22,900	24,750	25,127
Applications Programmer Trainee	22,880	21,789	23,736		18,450		20,570
Technical Writer	19,500	30,094	28,562				27,924
User Support/Liaison/Coordination Supervisor		40,000	31,500	36,808	34,024		38,500
Lead User Support/Liaison/Coodination Specialist	21,670		33,900	20,875	30,500		32,714
Senior User Support/Liaison/Coordination Specialist	35,600	30,000	32,484	26,918	25,016		40,022
Intermediate User Support/Liaison/Coordination Specialist	30,487	25,000	26,600	23,628	29,940	24,846	29,189
Telecommunications Supervisor	31,900	28,959	46,164		32,400		
Lead Telecommunications Specialist			28,464		34,762		
Senior Telecommunications Specialist	29,000	32,017	26,208	24,440	22,188	37,218	31,366
Lead Telecommunications Specialist			28,464		34,762		
Intermediate Telecommunications Specialist	25,000	24,317	29,120	26,624	19,464		30,000
Computer Operations Manager	47,000	41,775	47,300		47,321		
Data I/0 Control Supervisor		35,700	30,300	20,592	28,360		
Computer Operations Supervisor	31,175	28,000	32,030	31,053	29,703	27,361	36,302
Lead Computer Operator	21,250	23,460	24,024	25,064	23,000		29,189
Senior Computer Operator	24,904	20,431	22,602	22,298	22,070	22,400	23,600
Intermediate Computer Operator	21,254	18,207	20,000	19,672	17,775	19,968	21,050
Senior Data Entry Operator	21,300	17,000	20,155	15,825	17,909	16,390	18,263
Intermediate Data Entry Operator	17,000	13,000	16,200	17,784	16,770		20,556
DP Manager	62,608	43,600	51,000		51,416		62,331
DP Supervisor	46,250	34,560	41,300	34,967	33,440		39,250
Senior DP Specialist	33,427	34,857	30,596	29,536		43,356	
Intermediate DP Specialist	26,000	26,995	23,000				

Blanks indicate too few individuals for data to be meaningful.

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, Inc. *1990 ADAPSO Compensation Survey Results*

TABLE 111

MEAN AND MEDIAN ANNUAL SALARIES OF OPERATING SYSTEMS/SOFTWARE PROGRAMMER/ANALYSTS BY GEOGRAPHIC AREA AND LEVEL, 1990

GEOGRAPHIC AREA	LEAD/SPECIALIST		SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	$46,500	$43,000	$49,100	$48,100	$35,000	$34,000	$31,100	$29,500
Southeast	51,800	51,000	42,700	42,000	34,600	34,700	28,600	28,200
Midwest	46,000	47,000	42,500	42,000	33,400	31,700	31,800	30,000
Southwest	52,300	52,200	49,900	46,600	41,300	41,100	38,800	39,600
Northwest and Rocky Mts. Areas	54,900	54,000	45,400	45,400	35,800	36,500	32,500	33,000
California/Hawaii	46,600	46,000	41,400	40,300	34,500	33,700		
Overall	49,300	50,000	46,200	45,000	35,200	35,000	32,000	31,500

TABLE 112

MEAN AND MEDIAN ANNUAL SALARIES OF SOFTWARE DEVELOPMENT PROGRAMMER/ANALYSTS BY GEOGRAPHIC AREA AND LEVEL, 1990

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE		TRAINEE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	$41,100	$45,000	$36,900	$36,600	$32,400	$32,000	$28,100	$28,400
Southeast	41,900	41,200	33,700	33,700	28,200	27,900		
Midwest	49,400	47,000	40,800	38,700	32,600	31,900	29,200	29,500
Southwest	42,800	43,300	35,800	34,900	30,800	30,700	25,700	25,000
Northwest and Rocky Mts. Areas	50,300	49,400	38,500	38,700				
California/Hawaii	45,600	45,200	39,900	39,100	30,100	30,100		
Overall	46,600	45,300	37,400	37,000	31,500	31,300	27,700	28,300

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, Inc. *1990 ADAPSO Compensation Survey Results*

TABLE 113

MEAN AND MEDIAN ANNUAL SALARIES OF TECHNICAL WRITERS BY GEOGRAPHIC AREA AND LEVEL, 1990

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	$39,300	$38,200	$31,700	$31,000	$24,400	$24,100
Southeast	33,900	33,000	29,500	30,000	24,500	24,000
Midwest	35,600	35,600	29,600	30,200	26,500	27,000
Southwest	34,000	33,600	28,500	27,100	24,100	22,500
Northwest and Rocky Mt. Areas	37,600	37,900	30,700	30,300	24,500	25,900
California/Hawaii	37,700	37,400	30,100	30,700		
Overall	37,000	36,000	30,400	30,000	24,700	24,200

TABLE 114

MEAN AND MEDIAN ANNUAL SALARIES OF CUSTOMER SERVICE REPRESENTATIVES BY GEOGRAPHIC AREA AND LEVEL, 1990

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	$40,600	$41,500	$28,300	$28,000	$27,500	$26,500
Southeast	29,800	29,200	25,600	25,000	23,400	22,800
Midwest	34,800	35,000	28,700	28,400	21,700	20,400
Southwest	35,600	34,700	28,800	28,100	24,400	23,400
Northwest and Rocky Mt. Areas	35,300	36,000	28,300	31,500	24,500	23,000
California/Hawaii	43,600	48,000	32,000	37,000	27,400	24,600
Overall	36,800	35,900	28,500	28,100	22,900	21,300

TABLE 115

MEAN AND MEDIAN ANNUAL SALARIES OF CUSTOMER SUPPORT TECHNICIANS BY GEOGRAPHIC AREA AND LEVEL, 1990

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	$44,700	$44,300	$35,700	$37,000	$	$
Southeast	37,600	39,800	29,600	29,700		
Midwest	30,800	30,100	28,400	30,300	21,700	22,000
Southwest	40,800	41,800	28,700	27,700	25,000	23,400
California/Hawaii	42,600	42,600	32,400	32,300	25,100	24,900
Overall	40,400	39,200	30,100	30,200	23,300	23,300

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, *1990 ADAPSO Compensation Survey Results*

TABLE 116

MEAN AND MEDIAN ANNUAL SALARIES OF APPLICATIONS PROGRAMMER/ANALYSTS BY GEOGRAPHIC AREA AND LEVEL, 1990

GEOGRAPHIC AREA	LEAD/SPECIALIST		SENIOR		INTERMEDIATE		ASSOCIATE		TRAINEE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	$44,600	$43,700	$42,400	$41,400	$34,200	$33,400	$27,800	$27,600	$25,200	$25,000
Southeast	47,400	47,300	38,900	38,500	31,700	31,700	25,200	25,500	22,500	23,000
Midwest	45,600	45,300	43,400	42,800	36,300	36,000	27,500	27,300	23,700	23,100
Southwest	46,000	45,100	41,200	39,800	35,400	34,800	27,300	27,300	26,600	25,200
Northwest & Rocky Mts.	47,700	47,000	42,500	41,900	30,600	30,900	23,600	23,700		
California & Hawaii	48,700	48,200	44,300	42,700	38,500	37,600	29,100	28,000	28,600	28,500
Overall	**45,800**	**45,400**	**42,300**	**41,300**	**34,800**	**34,500**	**26,800**	**27,000**	**22,000**	**21,100**

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, Inc., *1990 ADAPSO Compensation Survey Results*

TABLE 117

MEDIAN SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND GEOGRAPHIC AREA, 1990

JOB TITLE	GEOGRAPHIC AREA						
	Total U.S.	Northeast	Southeast	Midwest	Southwest	Northwest & Rocky Mt. Areas	California & Hawaii
Operating Systems/Software Programming Analysis Manager	$64,700	$65,000	$59,100	$66,500	$63,600	$61,600	$60,300
Operating Systems/Software Programming Analysis Supervisor	55,700	57,700	55,500	57,200	54,100	53,000	48,300
Operating Systems/Software Architect/Consultant	57,600	55,100	57,700	57,500	67,300		56,500
Applications Programming/Analysis Manager	61,800	62,100	52,100	62,100	59,700		66,700
Applications Programming/Analysis Supervisor	47,700	50,400	47,400	45,900	42,800		54,500
Applications Architect/Consultant	57,000	58,700	45,200	56,000	58,800		61,200
Professional Services Project Manger	55,500	56,500	58,400	54,600			57,700
Computer Operations Manager	53,400	49,400	43,700	54,400	52,200	59,300	54,200
Internal MIS Manager	53,000	63,000	54,200	53,300	53,000	36,200	
Customer Support (Technical) Manager	50,900	52,000	50,100	48,800	70,000	37,000	59,100
Telecommunications Manager	58,200	58,200	61,300	61,600	56,500	65,900	
Telecommunications Supervisor	45,000	46,300	50,200	42,400	38,800		
Telecommunications Programmer/Analyst - Senior	43,300	47,200	42,300	45,400			
Telecommunications Programmer/Analyst - Intermediate	32,900	34,300	31,000	37,700			
Telecommunications Programmer/Analyst - Associate	28,200			31,800			
Data Entry Supervisor	27,100	28,500	23,600	39,700	25,700		
Data Processing Operations Supervisor	34,700	32,000	31,800	37,200	28,200		40,100
Software Development Architech/Consultant	60,300	60,300	56,700	63,600	60,400	64,700	61,100
Systems Consultant	47,000	50,000	36,400	45,000	43,900	49,400	
Computer Operator - Senior	25,000	24,100	21,100	24,100	22,100		24,000
Computer Operator - Intermediate	19,600	19,500	18,200	19,700	19,800	20,400	20,400
Data Entry Operator - Senior	18,700	17,600	17,800	20,500	19,200		
Data Entry Operator - Intermediate	15,500	15,000	15,100	16,200	14,800		

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, Inc. *1990 ADAPSO Compensation Survey Results*

TABLE 118

MEDIAN SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND TYPE OF SERVICE, 1990

JOB TITLE	TYPE OF SERVICE				
	Total U.S.	Processing Service	Software Products	Profess'l Services	Multi-Enviro.
Operating Systems/Software Programming Analysis Manager	$64,700	$66,000	$64,900	$58,200	$65,500
Operating Systems/Software Programming Analysis Supervisor	55,700	57,000	63,000		53,000
Applications Programming/Analysis Manager	61,800	60,900	61,900	58,200	63,300
Applications Programming/Analysis Supervisor	47,700	44,400	53,400		51,800
Professional Services Project Manager	55,500	54,000	57,100	59,100	58,000
Computer Operations Manager	53,400	50,700	52,500	43,200	53,900
Internal MIS Manager	53,000	52,800	52,000	54,300	57,600
Customer Support (Technical) Manager	50,900	46,000	50,400	48,500	52,400
Telecommunications Manager	58,200	57,200	46,100		61,800
Telecommunications Supervisor	45,000	39,200	33,500		50,500
Data Entry Supervisor	27,100	26,300	29,300	22,900	27,600
Data Processing Operations Supervisor	34,700	30,600	33,700		37,700
Operating Systems/Software Architect/Consultant	57,600	70,300	63,000		57,000
Operating Systems/Software Programmer/Analyst Lead Spec.	50,000	52,500	51,000	52,000	49,100
Operating Systems/Software Programmer/Analyst - Senior	45,000	58,300	48,300	38,000	42,800
Operating Systems/Software Programmer/Analyst - Intermed.	35,000	41,700	37,600	35,200	33,700
Operating Systems/Software Programmer/Analyst - Associate	31,500	40,100	33,000	26,000	28,400
Operating Systems/Software Programmer/Analyst - Trainee	25,000	26,000			25,000
Applications Architect/Consultant	57,000	61,300	54,500		56,700
Applications Programmer/Analyst-Lead Specialist	45,400	45,000	41,500	50,700	46,000
Applications Programmer/Analyst-Senior	41,300	46,800	40,000	39,500	40,500
Applications Programmer/Analyst-Intermediate	34,500	36,100	33,400	33,600	31,600
Applications Programmer/Analyst-Associate	27,000	27,600	26,900	26,100	26,000
Applications Programmer/Analyst-Trainee	21,100	24,000			20,100
Software Development Architect/Consultant	60,300	64,200	63,300	60,200	57,500
Software Development Programmer/Analyst - Senior	45,300		45,000	45,500	45,800
Software Development Programmer/Analyst - Intermediate	37,000		37,500	34,700	37,500
Software Development Programmer/Analyst - Associate	31,300		32,500	28,000	30,400
Software Development Programmer/Analyst - Trainee	28,300		28,400		27,000
Telecommunications Programmer/Analyst - Senior	43,300				43,500
Telecommunications Programmer/Analyst - Intermediate	32,900	30,400			33,000
Telecommunications Programmer/Analyst - Associate	28,200				28,900
Technical Writer - Senior	36,000	36,000	36,400	31,200	35,900
Technical Writer - Intermediate	30,000	28,500	32,300	27,500	29,000
Technical Writer - Associate	24,200	31,000	25,000		24,100
Systems Consultant	47,000	44,300	47,000		52,500
Customer Service Representative - Senior	35,900	32,900	34,400	33,500	40,200
Customer Service Representative - Intermediate	28,100	27,800	30,500	23,100	27,800
Customer Service Representative - Associate	21,300	21,300	24,000		20,200
Customer Support Technician - Senior	39,200	35,200	44,000	36,500	34,400
Customer Support Technician - Intermediate	30,200	31,000	32,100		28,900
Customer Support Technician - Associate	23,300	24,000	23,500		22,900
Computer Operator - Senior	25,000	22,400	23,000	22,900	26,100
Computer Operator - Intermediate	19,600	20,700	19,700	18,500	19,000
Data Entry Operator - Senior	18,700	17,900	16,300		19,000
Data Entry Operator - Intermediate	15,500	15,900	17,000		14,900

SOURCE Reprinted from *DATAMATION*, November, 1990 c 1990 by Cahners Publishing Company

TABLE 119

AVERAGE SALARIES OF DATA PROCESSING PERSONNEL BY POSITION & TYPE OF INDUSTRY, 1990

POSITION	ALL	TYPE OF INDUSTRY									
		Manufacturing		Finance	Banking	Government	Trans./ Ed/Const.	Med./ Legal	EDP Services	Distrib.	Other
		Consumer	Industrial								
CORPORATE STAFF											
Vice President	$85,089	$110,000	$72,500	$45,000	$76,000	$62,489	$106,800	$	$97,000	$90,000	$50,000
Director of DP/MIS	65,816	72,066	63,286	50,500	91,667	52,285	66,143	58,200	83,667	43,000	46,600
Technical Services Manager	60,122	64,633	52,275	40,000	62,500	42,828	71,000	55,000	70,800	47,500	
Information Center/Data Center Manager	50,778	67,670	44,200	30,000		46,234	49,017	41,025	56,400	47,500	35,000
Director of Security	48,320	45,000	39,000		65,000	37,932	63,525		47,500		15,000
SYSTEMS ANALYSIS											
Manager	52,178	55,750	51,083	34,750	66,000	43,802	53,600	60,000	57,667	47,000	56,667
Senior Systems Analyst	45,048	47,000	42,955	35,000		42,500	41,250	50,000	57,000	35,000	46,000
Lead Systems Analyst	43,052	41,260	45,000		48,000	42,000	40,000		41,500		
Systems Analyst	39,411	34,500	44,000	25,000		35,000	32,052	45,000	44,500	44,000	40,000
Junior Systems Analyst	30,285		25,500		27,000				34,667	30,000	
APPLICATIONS PROGRAMMING											
Manager	51,959	63,510	48,750		57,500	39,346	55,667	60,000	54,333		50,000
Lead Applications Programmer	37,320	30,333	37,200			31,932	38,000		50,500		25,000
Senior Applications Programmer	36,311	38,730	35,214	36,000	38,500	29,145	55,000	50,000	45,667	27,180	36,667
Applications Programmer	29,722	30,000	30,167	25,000	26,800	23,775	38,500	32,012	33,000		33,000
Intermediate Applications Programmer	28,403	23,000	32,250		28,500	22,667	45,000	32,000	28,500	13,971	-
Junior Applications Programmer	26,122	31,300	26,000		27,000	20,202	28,000		30,000	25,000	22,500
SYSTEMS ANALYSIS/PROGRAMMING											
Manager	52,543	46,000	54,386			46,331	53,795	70,000	53,250	56,500	51,971
Lead Systems Analyst/Programmer	44,686	41,945	51,207			37,955	45,040	38,200	53,333	42,333	47,750
Senior Systems Analyst/Programmer	38,862	35,690	43,321	31,800	52,000	35,385	39,092	30,000	46,000	39,667	40,750
Systems Analyst/Programmer	35,528	34,250	39,147			32,062	36,967	28,000	39,750	33,000	36,775
Intermed. Systems Analyst/Programmer	32,108	26,000	36,670		39,000	28,500	29,000		33,500	31,500	28,200
Junior Systems Analyst/Programmer	26,786	25,333	31,202	24,000		23,833	25,000	18,000	25,000	30,667	
OPERATING SYSTEMS PROGRAMMING											
Manager	56,052	57,250	56,000		61,500	48,667	49,000		58,000		62,500
Senior Systems Programmer	44,318	42,200	43,932		70,000	43,162	54,700	54,000	32,334	36,500	55,000
Intermediate Systems Programmer	37,349	34,333	31,000		43,000	35,924	55,000		36,000		40,000
Junior Systems Programmer	32,427	23,212	25,000		35,000	32,136	40,000	26,500	46,000		30,000
DATABASE ADMINISTRATION											
Manager	53,426	40,000	53,547		50,000	41,551	75,000		63,667		65,000
Database Administrator	46,680	46,666	40,881		43,000	43,449	60,000	50,000	56,500		45,140
DATACOM/TELECOM/CONNECTIVITY											
Manager	52,228	42,000	46,750	42,000	75,000	42,699	62,500	55,000	55,000		60,000
Analyst	48,174	40,000	48,094		47,000	35,612	60,000	45,000	57,000		53,400
Network Engineer	44,626		37,000		42,000	38,506	60,000		43,000		55,000
Network Administrator	33,077	31,000	31,500		32,000	39,924	45,000		32,000		25,000
COMPUTER OPERATIONS											
Manager	43,356	36,000	43,500		39,333	42,793	59,667	38,460	47,667	44,800	43,150
Shift Supervisor	33,542	30,516	31,586		47,000	36,576	39,400	26,000	37,333	30,500	27,500
Lead Computer Operator	25,029	24,265	23,259	20,000	26,250	27,118	29,667	20,364	27,750	24,146	29,950
Computer Operator	21,090	19,772	18,500		28,000	23,080	25,552	22,000	24,033	19,380	16,250
Microcomputer/Workstation Manager	38,974	42,000	20,000		47,000	35,234		55,000			36,250
PRODUCTION AND I/O CONTROL											
Supervisor	33,941	34,000	28,000		28,000	30,000	50,000		38,500		39,500
Lead Production Controller	28,681	31,058	24,000		22,000	24,850	45,000		30,000		
Scheduler	26,711	26,638	22,875		19,000	22,000	40,000		24,000	32,000	35,000
Control Clerk	19,677	19,196	18,516		16,000	17,074	23,000		24,000	22,000	20,000
DATA ENTRY											
Supervisor	23,341	23,500	23,667	18,000	34,000	22,000		16,644	24,667	27,000	19,750
Operator	20,040	17,261	24,217	18,500	13,000	18,250	21,500	14,250	18,000	19,003	18,600
OFFICE AUTOMATION											
Word Processing Supervisor	28,000	23,000	18,000			28,000	37,500		15,000	50,000	15,000
Word Processing Operator	22,418	19,000	18,625			23,000	24,107			22,000	32,500
Micro. User Services Specialist	29,560	36,866	21,000		48,000	23,312	60,000	18,000			
DOCUMENTATION											
Specialist	24,794		25,000		18,000	20,000	34,772		30,000	20,000	10,400
Consultant	54,584	45,000	50,000		87,000	31,848			59,000	100,000	20,000
PC Evaluator	33,657	31,380	35,451			36,324	55,000	20,000			40,000
Business Analyst	45,333		40,000		66,000						*30,000*

Note: Blanks indicate insufficient data

SOURCE: Reprinted from *DATAMATION*, November 1, 1990, c 1990 by Cahners Publishing Company

TABLE 120

AVERAGE SALARIES OF DATA PROCESSING PERSONNEL BY POSITION & SELECTED GEOGRAPHIC REGIONS, 1990

POSITION	ALL	GEOGRAPHIC REGIONS					
		EAST COAST	SOUTH-EAST	MID-WEST	SOUTH-WEST	WEST COAST	OTHER
CORPORATE STAFF							
Vice President	$85,089	$101,000	$87,500	$70,000	$77,859	$100,000	$
Director of DP/MIS	65,816	77,924	54,347	66,200	54,162	78,566	40,500
Technical Services Manager	60,122	62,122	61,400	70,000	50,664	57,829	60,000
Information Center/Data Center Manager	50,778	51,364	42,600	61,167	50,871	56,204	30,500
Director of Security	48,320	50,750	32,500	47,000	43,265	67,525	
SYSTEMS ANALYSIS							
Manager	52,178	53,250	60,500	56,625	44,051	57,300	
Senior Systems Analyst	45,048	47,591	49,333	37,500	38,833	55,000	33,500
Lead Systems Analyst	43,052	43,000	45,000	38,256	45,000	44,010	
Systems Analyst	39,411	39,857	46,000	34,600	41,013	43,000	30.000
Junior Systems Analyst	30,285	27,500	38,000		25,500	30,000	
APPLICATIONS PROGRAMMING							
Manager	51,959	54,446	41,833	56,250	51,122	61,510	39,000
Lead Applications Programmer	37,320	30,667	39,250	28,667	38,145	44,600	35,000
Senior Applications Programmer	36,311	40,000	31,420	32,670	35,547	45,653	22,500
Applications Programmer	29,722	28,000	26,933	25,250	28,719	41,200	28,000
Intermediate Applications Programmer	28,403	31,333	20,994	25,540	33,000	36,667	
Junior Applications Programmer	26,122	27,857	20,750		26,202	28,400	
SYSTEMS ANALYSIS/PROGRAMMING							
Manager	52,543	53,500	62,167	52,509	45,018	51,036	42,000
Lead Systems Analyst/Programmer	44,686	52,250	48,276	42,720	37,555	45,680	34,000
Senior Systems Analyst/Programmer	38,862	48,500	40,333	37,313	37,385	40,521	31,000
Systems Analyst/Programmer	35,528	37,750	36,009	35,017	36,338	36,360	30,000
Intermed. Systems Analyst/Programmer	32,108	37,000	29,250	31,058	34,533	34,000	
Junior Systems Analyst/Programmer	26,786	29,000	23,400	28,602	30,833	26,000	22,000
OPERATION SYSTEMS PROGRAMMING							
Manager	56,052	66,143	41,500	41,000	51,500	63,333	
Senior Systems Programmer	44,318	45,250	39,000	41,518	45,331	47,600	
Intermediate Systems Programmer	37,349	38,600	36,000	23,000	31,924	47,500	
Junior Systems Programmer	32,427	31,600	25,713	31,500	37,852	31,667	
DATABASE ADMINISTRATION							
Manager	53,426	65,000	48,000	42,063	42,841	70,000	78,000
Database Administrator	46,680	48,000	36,000	45,642	44,341	49,167	
DATACOM/TELECOM/CONNECTIVITY							
Manager	52,228	63,625	36,667	44,000	41,449	60,000	28,000
Analyst	48,174	52,800	30,000	61,188	37,479	56,250	
Network Engineer	44,626	46,000	36,000		32,006	55,000	
Network Administrator	33,077	35,000	32,000	36,000	28,424	33,500	
COMPUTER OPERATIONS							
Manager	43,356	46,258	43,875	40,229	40,914	53,600	
Shift Supervisor	33,542	34,780	33,000	28,000	34,745	33,130	32,000
Lead Computer Operator	25,029	25,957	23,081	23,089	23,771	31,266	21,500
Computer Operator	21,090	23,109	18,171	19,734	22,000	24,095	18,000
Microcomputer/Workstation Manager	38,974	48,000		40,000	28,162	32,500	
PRODUCTION AND I/O CONTROL							
Supervisor	33,941	34,250	34,000	27,500	32,500	40,000	35,000
Lead Production Controller	28,681	29,667	30,000		20,850	32,039	30,000
Scheduler	26,711	27,400	25,812	32,000	18,000	27,305	
Control Clerk	19,677	19,200	20,700	22,000	16,049	22,305	
DATA ENTRY							
Supervisor	23,341	26,400	25,667	19,167	26,500	23,000	
Operator	20,040	19,500	17,526	17,794	20,750	30,400	20,000
OFFICE AUTOMATION							
Word Processing Supervisor	28,000	19,000	45,000	50,000	24,000	28,000	
Word Processing Operator	22,418		14,750	20,333	22,702	29,333	
Micro. User Services Specialist	29,560	35,500	17,000	25,750	23,750	48,700	22,000
OTHER							
Specialist	24,794	19,000	45,000	19,000	23,500	34,772	
Consultant	54,584	74,000	40,667	20,000	60,616		
PC Evaluator	33,657	38,500	14,776	40,000	36,324	43,190	
Business Analyst	45,333	66,000			40,000	30,000	

Note: Blanks indicate insufficient data

SOURCE: Abbott, Langer and Associates, *Compensation in the Accounting/Financial Field, 1991.*

TABLE 121

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY TYPE OF ORGANIZATION AND POSITION, SEPTEMBER 1990

TYPE OF ORGANIZATION	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Accounting and Auditing Managers		Supervisory Accountants & Auditors	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
All Manufacturing / Extractive Organizations	$31,365	$29,600	$26,617	$27,500	$42,209	$39,000	$57,737	$48,800	$41,956	$40,300
All Non-Manufacturing Organizations (Excluding Public Acct.)*	27,568	27,176	22,733	22,851	33,045	32,000	44,233	44,000	34,703	33,381
Accounting Firms (Public)	24,318	26,163	23,393	24,000	30,285	30,000	50,918	51,000	36,997	37,950
Apparel/Textile Product Mfg	28,638	27,500					43,760	42,000		
Banks and Other Financial Organizations	22,611	22,100	19,507	20,050	27,430	26,324	36,975	37,740		
Chemical / Pharmaceutical / Plastic/ Rubber Product Mfg	27,447	26,880			37,960	35,800	46,558	46,000	42,650	43,650
Communication Services (Radio, TV, Telephone, Etc.)									27,549	26,496
Construction, Land Development & Engrg. Firms	30,780	31.675	26,434	25,641	42,980	43,279			52,158	52,409
Electrical / Electronics Product Mfg.	26,600	26,100	25,787	23,296	30,731	31,900	47,122	45,448	37,405	36,900
Fabricated Metal Product Mfg.	26,635	26,975			25,517	23,640	42,760	43,250	39,031	39,350
Food/Beverage/Tobacco Product Mfg	27,600	29,050					39,607	36,000		
Government, State and Local	27,479	27,532	22,216	22,851	31,592	30,730	42,997	41,586	34,367	34,869
Health Care Organizations (Hospitals / Nursing Homes / etc.)	28,656	28,500			29,997	27,300	44,211	41,247		
Hospitality Origanizations (Lodging, Food, Recreation)	23,093	24,000					36,025	33,950	25,813	24,500
Insurance Companies	29,579	31,000	22,602	23,000	31,935	33,000	44,077	44,285		
Merchandising Firms (Retail & Wholesale)	25,532	25,000	19.427	21,280	31,859	30,000	44,437	45,350	33,342	33,000
Paper Product Mfg., Printing & Publishing							38,213	38,000	38,624	38,700
Petroleum / Natural Gas - Extracting / Refining	44,492	45,360			56,809	58,084	96,963	94,000	62,419	69,227
Primary Metal Industries	31,555	31,870			33,909	33,398	40,500	42,000	39,358	39,066
Transportation Equipment Mfg.							30,998	33,400		
Transportation Services							37,625	37,998	28,738	27,786
Utilities - Electric, Gas, Water & Pipeline	30,988	29,500	23,412	24,300	39,363	38,688	49,416	48,836	41,378	41,901

* Banks & other financial organizations.

SOURCE: Abbott, Langer and Associates, *Compensation in the Accounting/Financial Field,* 1991

TABLE 122

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY METROPOLITAN AREA AND POSITION, SEPTEMBER 1990

METROPOLITAN AREA	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Accounting & Auditing Managers		Supervisory Accountants & Auditors	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Boston & Vicinity	$28,790	$28,354	$	$	$36,112	$32,365	$	$	$	$
Chicago & Vicinity	27,941	28,000	26,056	24,931	37,885	35,640	43,620	43,000	42,559	41,927
Cincinnati (OH/KY/IN) & Vicinity					31,983	30,500				
Cleveland (OH) & Vicinity	26,676	26,500								
Dallas/Ft. Worth & Vicinity	29,671	28,800			49,846	51,469	60,477	55,008		
Detroit (MI) & Vicinity	21,999	24,140								
Hartford (CT) & Vicinity	25,637	25,000	22,759	22,499	30,293	30,000	52,013	53,500	38,115	34,599
Indianapolis (IN) & Vicinity	25,608	26,163			30,014	28,500				
Jacksonville (FL) & Vicinity	22,676	22,550								
Los Angeles/Long Beach (CA)& Vicinity	39,063	36,000	27,828	26,650	43,336	41,615	79,271	84,[illegible]46	53,151	45,175
Louisville (KY/IN) & Vicinity					34,714	34,206	46,924	46,072	38,667	41,901
Milwaukee (WI) & Vicinity									41,333	41,500
New Orleans (LA) & Vicinity					24,923	23,856	39,718	39,540	28,743	26,796
New York City (NY/NJ) & Vicinity	33,343	34,500	27,907	28,500	46,048	45,550	63,441	65,000	45,484	44,950
Orlando (FL) & Vicinity			23,166	24,000	33,600	34,000				
Philadelphia & Vicinity	27,223	27,800	24,514	25,000	37,296	33,900	43,297	44,992	41,657	41,500
Phoenix (AZ) & Vicinity	29,995	28,500	23,259	23,000	31,894	30,000	51,821	50,000	40,626	41,500
Sacramento (CA) & Vicinity			25,680	25,800			54,360	54,000	43,240	42,000
Salt Lake City/Ogden (UT) & Vicinity					38,179	36,000			43,443	40,550
San Francisco/ Oakland (CA) & Vicinity	26,895	26,280	28,357	26,000	32,867	32,400	53,142	52,367	41,065	40,089
St. Louis (MO/IL) & Vicinity							36,461	35,280		
Seattle/Everett (WA) & Vicinity			24,916	24,969						
Tampa/St. Petersburg (FL) & Vicinity					37,594	35,932			38,320	38,700
Washington/Baltimore (DC/MD/VA/ & Vicinity	30,050	31,928	22,091	21,638	36,036	35,911	44,749	43,810		
All Areas	27,088	26,940	23,380	23,000	34,306	32,054	50,978	46,500	37,975	37,000

SOURCE: Abbott, Langer and Associates, *Compensation in the Accounting/Financial Field, 1991.*

TABLE 123

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY SELECTED STATES AND POSITION, SEPTEMBER 1990

STATE	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Supervisory Accountants & Auditing		Accounting & Auditing Managers	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Alaska	$35,504	$33,250	$31,292	$31,250	$	$	$41,933	$40,900	$84,575	$69,250
Arizona	29,995	28,500	23,259	23,000	31,894	30,000	40,626	41,500	51,821	50,000
Arkansas					29,078	30,375	42,866	40,800		
California	30,492	27,120	27,355	26,000	36,792	32,710	44,005	40,680	62,086	54,000
Colorado					42,511	42,800				
Connecticut	25,777	25,000	22,759	22,499	32,334	30,050	37,747	34,299	51,541	53,000
Delaware	26,816	27,175					33,171	33,247		
Florida	24,210	23,010	22,317	24,000	33,576	33,000	34,067	34,400		
Georgia							30,558	29,946	43,837	41,850
Illinois	28,807	29,600	25,821	24,931	38,343	36,549	39,836	38,950	40,103	37,500
Indiana	24,506	24,706			30,014	28,500				
Kentucky					32,762	34,159	38,667	41,901	44,057	45,448
Louisiana					24,923	23,856	28,743	26,796	39,718	39,540
Maryland	29,455	31,564	22,091	21,638	35,154	35,011			49,136	45,451
Massachusetts	28,790	28,354			36,112	32,365				
Michigan	21,613	24,130	15,918	13,860			29,356	29,970	35,856	37,680
Minnesota	18,845	20,000			33,376	33,258			45,485	45,390
Missouri									43,540	42,000
Nebraska	24,935	30,160					$39,240	$39,600		
Nevada	24,000	24,000					24,500	24,000	36,133	33,400
New Jersey	34,539	35,450	28,614	28,500	46,796	46,050	46,139	45,300	65,108	68,050
New Mexico	25,567	26,000	21,678	22,750	26,925	27,150	33,550	30,000	42,529	42,000
New York	26,139	26,000	20,627	18,000	31,571	31,500	35,937	33,000	45,736	49,000
North Carolina	25,500	22,100	22,018	22,945	28,532	29,482	40,681	39,542	41,209	43,400
Ohio	24,980	25,000	18,367	18,500	29,490	29,000	31,123	30,000	35,649	36,700
Pennsylvania	25,983	24,280	24,538	24,850	36,760	34,450	36,879	38,500	42,140	43,400
Texas	28,921	28,740	24,344	24,726	46,101	44,136			56,050	46,092
Utah	27,169	29,335	23,088	22,851	32,933	30,730	38,791	34,869	48,576	41,586
Washington	25,503	24,436	23,097	23,784						
West Virginia	25,200	27,000								
Wisconsin	26,162	28,340					39,834	41,500	52,897	50,250

SOURCE: Abbott, Langer and Associates, *Compensation in the Accounting/Financial Field, 1991*

TABLE 124

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY GEOGRAPHIC REGION AND POSITION, SEPTEMBER 1990

GEOGRAPHIC REGION	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Supervisory Accountants & Auditors		Accounting & Auditing Managers	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Northeastern States	$27,928	$27,000	$24,678	$24,850	$37,783	$33,950	$41,037	$39,950	$52,582	$50,175
Southern States	26,390	25,971	21,674	22,890	31,337	31,382	34,534	34,450	43,785	43,472
Midwestern States	25,733	26,100	22,713	22,420	32,588	30,000	37,075	34,700	40,925	38,350
North Central States	22,769	23,250	20,657	22,500	30,091	30,600	35,984	32,238	44,808	44,688
Southwestern States	30,509	28,680	23,695	24,600	37,286	34,726	34,942	32,004	51,257	43,427
Mountain States	27,304	28,500	22,886	22,851	32,181	30,730	38,142	39,000	49,162	46,500
Pacific States	29,291	26,940	26,888	26,000	36,566	33,020	41,178	39,800	63,340	54,000

TABLE 125

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY LEVEL OF EDUCATION AND POSITION, SEPTEMBER 1990

LEVEL OF EDUCATION	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Accounting & Auditing Managers		Supervisory Accountants & Auditors	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Less than BA/BS/BBA	$24,092	$24,000	$22,558	$22,525	$29,508	$28,680	$37,836	$35,655	$33,806	$32,500
BA/BS/BBA Degree	27,370	27,000	23,945	23,964	34,125	32,054	50,541	46,280	38,928	38,000
MA/MS Degree	28,256	28,000			37,744	32,000	56,296	51,000	39,987	35,734
MBA Degree	30,657	29,600			41,650	42,644	62,758	56,500	44,868	41,901

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, "*Usual Weekly Earnings of Wage & Salary Workers: Second Quarter 1990,*" USDL 90,-390, July 27, 1990

TABLE 126

NUMBER AND MEDIAN WEEKLY EARNINGS BY SEX FOR SELECTED OCCUPATIONS, SECOND QUARTER 1990

OCCUPATION	TOTAL		MEN		WOMEN	
	Number of Workers	Median Weekly Earnings	Number of Workers	Median Weekly Earnings	Number of Workers	Median Weekly Earnings
MANAGERIAL & PROFESSIONAL	22,889,000	$599	12,216,000	$717	10,672,000	$507
Executive, Adminis. & Managerial	11,408,000	595	6,459,000	722	4,949,000	484
Professional	11,481,000	603	5,758,000	712	5,723,000	525
TECHNICAL, SALES & ADMINIS. SUPPORT	26,257,000	379	9,963,000	494	16,294,000	329
Technicians & Related Support	3,490,000	498	1,924,000	561	1,566,000	426
Sales Occupations	8,115,000	402	4,646,000	506	3,469,000	284
Adminis. Support, Including Clerical	14,653,000	349	3,394,000	438	11,259,000	332

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Unpublished Tabulations from the *Current Population Survey*

TABLE 127

MEDIAN WEEKLY EARNINGS OF FULL-TIME WAGE AND SALARY WORKERS BY SEX IN SELECTED OCCUPATIONS, 1990

(numbers in thousands)

OCCUPATION	BOTH SEXES		MEN		WOMEN		Women's Earnings As a % Of Men's
	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	
MANAGEMENT & PROFESSIONAL SPECIALTY OCCUPATIONS	**22,858**	**$608**	**12,263**	**$731**	**10,595**	**$511**	**69.9**
Executive, Administrative, and Managerial Occupations	11,165	604	6,401	742	4,764	485	65.4
Administrators and Officials, Public Administration	484	634	286	710	198	549	77.3
Financial Managers	455	688	252	837	202	558	66.7
Personnel & Labor Relations Managers	117	684	51	881	66	604	68.6
Managers, Marketing, Advertising & Public Relations	468	797	321	902	147	616	68.3
Administrators, Education & Related Fields	474	724	243	819	231	588	71.8
Managers, Medicine & Health	158	634	55	788	103	592	75.1
Management Related Occupations	3,282	545	1,600	656	1,681	480	73.2
Accountants & Auditors	1,186	533	550	644	636	483	75.0
Management Analysts	98	768	62	868	36	552	63.6
Personnel Training, and Labor Relations Specialists	360	582	144	695	216	508	73.1
PROFESSIONAL SPECIALTY OCCUPATIONS	11,693	610	5,863	720	5,831	534	74.2
Engineers, Architects, & Surveyors	1,866	809	1,708	818	158	725	88.6
Architects	76	695	58	731	17	591	80.8
Engineers	1,769	814	1,629	822	141	736	89.5
Aerospace Engineers	104	830	97	855	7	708	82.8
Agricultural Engineers	3	877	3	877	0		
Chemical Engineers	67	890	58	920	8	679	73.8
Civil Engineers	212	790	200	794	12	738	92.9
Electrical & Electronic Engineers	568	848	520	856	49	772	90.2
Industrial Engineers	202	764	182	779	20	622	79.8
Marine Engineers & Naval Architects	7	993	7	993	0		
Mechanical Engineers	296	805	284	811	12	735	90.6
Metallurgical & Materials Engineers	24	896	23	910	1	781	85.8
Mining Engineers	6	623	6	623	0		
Petroleum Engineers	15	1,005	13	1,007	2	721	71.6
Nuclear Engineers	11	1,037	11	1,043	0		
Engineers, N.E.C.	254	768	224	774	30	746	96.4
Surveyors & Mapping Scientists	21	476	21	475	0		
Mathematical & Computer Scientists	808	734	510	803	298	631	78.6
Computer Systems Analysts & Scientists	542	744	351	799	191	661	82.7
Operations & Systems Researchers & Analysts	217	696	130	781	87	597	76.4
Actuaries	21	999	14	1,142	7	682	59.7
Statisticians	22	786	11	842	11	523	62.1
Mathematical Scientists, N.E.C.	6	791	5	723	1	793	109.7
Natural Scientists	357	661	261	691	96	613	88.7
Chemists, Except Biochemists	119	676	89	718	30	611	85.1
Biological & Life Scientists	714	602	43	606	32	598	98.7
Physicists & Astronomers	20	878	19	854	1	1,104	129.3
Atmospheric & Space Scientists	6	667	5	659	1	893	135.5
Geologists & Geodesists	45	704	36	731	9	689	94.3
Physical Scientists, N.E.C.	18	679	11	799	7	567	71.0
Agricultural & Food Scientists	15	460	13	489	2	361	73.8
Forestry & Conservation Scientists	22	515	21	504	2		

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Unpublished Tabulations from the *Current Population Survey*

TABLE 127 (Continued)

MEDIAN WEEKLY EARNINGS OF FULL-TIME WAGE AND SALARY WORKERS BY SEX IN SELECTED OCCUPATIONS, 1990

(numbers in thousands)

OCCUPATION	BOTH SEXES		MEN		WOMEN		Women's Earnings As a % Of Men's
	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	
Medical Scientists	37	$836	26	$987	11	$658	66.7
Health Diagnosing Occupations	316	824	232	920	83	685	74.5
Physicians	266	892	198	978	68	802	82.0
Dentists	13	852	10	982	3	743	75.7
Veterinarians	27	646	17	717	10	580	80.9
Optometrists	3	799	2	820	1	369	45.0
Podiatrists	3	1,159	3	1,159	0		
Health Diagnosing Practitioners, N.E.C.	4	452	2	729	2	439	60.2
Health Assessment & Treating Occupations	1,662	600	258	663	1,404	596	89.9
Registered Nurses	1,181	608	76	616	1,104	608	98.7
Pharmacists	117	794	73	811	44	759	93.6
Dieticians	71	454	7	415	64	457	110.1
Therapists	234	536	61	587	173	521	88.8
Inhalation Therapists	50	516	21	624	29	476	76.3
Physical Therapists	56	525	16	534	41	522	97.8
Speech Therapists	43	582	4	613	38	580	94.6
Occupational Therapists	29	592	3	631	26	586	92.9
Therapists, N.E.C.	56	477	17	442	39	505	114.3
Physicians Assistants	60	510	41	513	19	455	88.7
Teachers, College and University	540	747	376	808	164	620	76.7
Earth, Environ. & Marine Science Teachers	3	1,018	3	1,018	0		
Biological Science Teachers	17	928	12	944	5	908	96.2
Chemistry Teachers	7	794	7	808	1	750	92.8
Physics Teachers	14	821	13	840	1	800	95.2
Natural Science Teachers N.E.C.	1	881	1	843	0		
Psychology Teachers	12	775	8	992	3	507	51.1
Economics Teachers	14	730	11	808	3	635	78.6
History Teachers	15	808	12	944	3	568	60.2
Political Science Teachers	10	877	8	992	3	661	66.6
Sociology Teachers	6	690	4	698	3	686	98.3
Social Science Teachers, N.E.C.	5	795	4	787	1	928	117.9
Engineering Teachers	20	880	19	887	1	661	74.5
Mathematical Science Teachers	34	708	25	742	8	594	80.1
Computer Science Teachers	11	885	8	995	4	625	62.8
Medical Science Teachers	12	836	9	793	4	853	107.6
Health Specielties Teachers	27	778	13	856	14	707	82.6
Business Commerce & Marketing Teachers	33	894	25	956	9	734	76.8
Agriculture & Forestry Teachers	4	646	4	646	0		
Art, Drama, & Music Teachers	37	703	23	748	14	494	66.0
Physical Education Teachers	6	718	5	742	1	365	49.2
Education Teachers	13	801	8	936	6	670	71.6
English Teachers	42	681	24	721	18	617	85.6
Foreign Language Teachers	10	649	5	754	5	526	69.8
Law Teachers	5	1,104	4	1,480	2	786	53.1
Social Work Teachers	4	812	1	880	3	804	91.4
Theology Teachers	10	873	9	882	1	449	50.9
Trade & Industrial Teachers	3	701	3	687	0		
Home Economics Teachers	1	408	0		1	408	

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Unpublished Tabulations from the *Current Population Survey*

TABLE 127 (Continued)

MEDIAN WEEKLY EARNINGS OF FULL-TIME WAGE AND SALARY WORKERS BY SEX IN SELECTED OCCUPATIONS, 1990

(numbers in thousands)

OCCUPATION	BOTH SEXES		MEN		WOMEN		Women's Earnings As a % Of Men's
	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	
Teachers, College & Univ., N.E.C.	2	$624	2	$624	0	$	
College & Univ. Teachers, Subject Not Specified	161	697	108	767	52	567	73.9
Teachers, Except College & University	3,175	522	913	594	2,263	505	85.0
Teachers, Prekindergarten & Kindergarten	298	344	6	378	292	341	90.2
Teachers, Elementary School	1,311	519	200	575	1,111	513	89.2
Teachers, Secondary School	1,058	589	527	610	531	571	93.6
Teachers, Special Education	238	510	37	565	202	506	89.6
Counselors, Educational & Vocational	183	595	75	695	108	563	81.0
Librarians, Archivists, and Curators	148	493	28	589	120	484	82.2
Librarians	133	489	21	604	112	479	79.3
Social Scientists & Urban Planners	241	603	125	677	116	515	76.1
Economists	89	689	54	769	36	539	70.1
Psychologists	119	553	52	605	68	514	85.0
Sociologist	2	720	1	1,386	1	700	50.5
Social Scientists, N.E.C.	16	479	9	502	7	416	82.9
Urban Planners	14	537	10	529	5	586	110.8
Social, Recreation, & Religious Workers	908	423	465	446	442	408	91.5
Social Workers	496	445	163	483	333	427	88.4
Lawyers & Judges	417	1,052	306	1,184	111	834	70.4
Lawyers	390	1,045	285	1,178	105	875	74.3
TECHNICAL, SALES & ADMINISTRATIVE SUPPORT OCCUPATIONS	25,799	378	9,596	496	16,203	332	66.9
Technicians & Related Suport Occupations	3,218	493	1,747	570	1,470	417	73.2
Health Technologists & Technicians	978	398	191	467	787	387	82.9
Clinical laboratory Technologists & Technicians	239	445	61	482	178	431	83.4
Dental Hygienists	33	592	0		33	592	
Health Record Technologists & Tech.	70	342	5	403	65	334	82.9
Radiologic Technicians	97	481	24	606	73	468	77.2
Licensed Practical Nurses	319	377	19	414	299	377	91.1
Health Technologists & Tech.,N.E.C.	221	373	82	449	139	342	76.2
Engineering & Related Technologists & Technicians	895	509	730	532	165	398	74.8
Electrical & Electronic Technicians	339	533	286	552	53	449	81.3
Industrial Engineering Technician	5	480	3	370	2	545	147.3
Mechanical Engineering Technician	22	596	21	597	1	587	98.3
Engineering Technicians, N.E.C.	214	483	151	525	63	375	71.4
Drafting Occupations	247	499	204	520	43	400	76.9
Surveying & Mapping Technicians	67	446	65	450	2	274	60.9
Science Technicians	203	475	143	501	60	400	79.8
Biological Technicians	54	415	30	487	24	346	71.0
Chemical Technicians	83	524	61	550	22	490	89.1
Science Technicians, N.E.C.	67	430	53	439	14	400	91.1
Technicians, Except Health, Engineering & Science	1,141	599	683	672	458	506	75.3
Computer Programmers	544	654	349	691	195	573	82.9
ADMINISTRATIVE SUPPORT OCCUPATIONS, INCLUDING CLERICAL	14,384	350	3,183	440	11,202	332	75.5
Computer Equipment Operators	688	374	242	446	446	348	78.0
Computer Operators	681	375	240	450	441	348	77.3

SALARIES OF ENGINEERS

For the third year in a row, salaries of engineers in the United States failed to keep up with inflation, according to the 24th survey by the **Engineering Manpower Commission** of the **American Association of Engineering Societies, Inc.**. The survey covered 115,606 persons employed in 301 private sector organizations, 5,476 engineers working in 26 federal, state or local government agencies, and 14,744 engineering educators. Engineers employed in industry, regardless of sector, earned more than their colleagues in federal or state government. However, engineers employed in research and development labs reported the highest median salary - $56,700. The lowest median salary was reported by engineers employed by state governments - $39,000, (**Table 128**). This is true throughout their professional careers as is shown in **Table 129**.

Within the industrial sector, petroleum led all others with the highest overall level of engineering compensation. However, in various points in their careers, engineers working in other industries reported higher median salaries than did those working in the petroleum industry. As **Table 130** shows, salaries of engineers in industry ranged from a high of $86,800 for those with 33+ years of experience working in the petroleum industry to a low of $28,650 for those just beginning their careers in the construction industry.

Supervisory status and academic attainment exert significant influences on the compensation of engineers. Supervisory engineers consistently earn more than non-supervisory engineers, with salary differentials ranging from a high of 60.8% in the aerospace industry to a low of only 3.6% for those working in R&D laboratories. The highest median salary was for supervisory engineers employed in the petroleum industry ($81,550), while the lowest median was reported by non-supervisory engineers employed in state governments (**Table 131**). The higher the degree, the higher the salary. Overall, bachelor's degree engineers reported a median salary of $45,000, compared to $54,030 at the master;s level and $63,650 for PhDs (**Table 132**).

By geographic region, the Pacific area overall continued its number one ranking as the highest-paying part of the country. The median annual salary for engineers working in the Pacific region is $56,100, compared to the West North Central region where engineers' median salary is only $44,150 (**Table 134**). Engineers receive the highest median salaries in the Pacific region from the beginning to the end of their careers (**Table 133**).

The twenty-fourth national compensation survey by the **National Society of Professional Engineers - PROFESSIONAL INCOME AND SALARY SURVEY 1990**, carried out by **Abbott, Langer & Associates**, found that total income of NSPE members reached $55,500, up 4.7% over 1989 - the same increase as in the 1988-89 period. However, since the Consumer Price Index rose by 5.2%, NSPE members did not even keep up with inflation.

By level of education, median income of engineers with a B.S. degree in engineering rose 4.0% over the proceeding year to reach $52,100, while those with a M.S. in engineering 4.5% to $58,870, and those with a doctorate in engineering reached $72,500 (**Table 135**). Regardless of degree level, income of engineers increases with years of experience through the first 25 years of working, then levels off and drops somewhat (**Table 136**).

Geographically, engineers employed in the Northeastern states reported the highest median income - $60,405, while those employed in the Great Plains States reported the lowest - $50,000 (**Table 137**). By selected metropolitan areas, median income of engineers ranged from a high of $71,000 in New York City, including all five boroughs, to a low of $46,500 in Dayton/Springfield, Ohio and vicinity (**Table 138**).

Income of engineers varies by the type of employer and by what they do. Highest median income by type or service of employer was reported by those engineers in private practice engaged in electronics work - $69,750, while the lowest income was reported by those engineers working in federal government, including the military - $47,050 (**Table 139**). By branch of engineering, petroleum engineers reported the highest median income - $64,500, although civil engineers engaged in surveying, registered the highest percentage increase (10.9%) to $52,550. Lowest median income was reported by aeronautical/aerospace engineers at $52,000 (**Table 141**). **Table 140** shows median income by branch of engiheering and length of experience. Petroleum engineers with 25-29 years of experience reported the highest income - $98,000.

By job function, engineers engaged in executive/administrative activities registered the highest median income - $69,800, while those engaged in design earned the least - $48,000 (**Table 142**). **Table**

143 shows median income by job function and length of experience. Generally, the more experience, the higher the salary regardless of design function. Engineers working in an executive/administrative position with at least 30 years of experience reported the highest income - $77,200.

The 1990 Salary Survey Report, published by the **American Institute of Chemical Engineers**, is based on data reported by 2,655 members of the AIChE. The median age of the respondents was 36-40, which is consistent with the entire AIChE membership. Overall, the 1990 median salary of the respondents was $54,000, up 15% from the $45,800 of 1987. As is true in other surveys, women AIChE members received considerably smaller salaries than did men AIChE members. Overall, men received nearly 40% more than women, although women report equal or higher salaries than men in the early stages of their careers, **(Table 144)**.

Of course, the higher the degree, the higher the salary **(Table 145)**. **Table 146** shows that working for a larger company results in higher salaries than working for a smaller one, while **Table 147** reports that the more experience the chemical engineer has, the higher the salary until the engineer has about 35 years of experience at which time the salary begins to drop. Work function and product specialties have an effect on salaries of chemical engineers. Median salaries ranged from a high of $82,900 for chemical engineers in general management to a low of $41,400 for those working in product engineering,**(Table 148)**, while salaries ranged from a high of $70,700 for chemical engineers employed in natural gas areas to a low of $33,700 for those working in explosives.

Median salaries for chemical engineers at all degree levels were fairly flat for the third year in a row, according to **SALARIES 1990**, an analysis of the 1990 survey of salaries and employment prepared by the **American Chemical Society**. The overall median salary for PhD industrial chemical engineers was $65,000 up only .5% from $64,700 in 1989. Master's degree chemical engineers reported a median salary of $55,000 compared with $53,000 in 1989, while at the bachelor's level the median salary was $49,400, up from $47,700 in 1989. However, median salaries of new B.S. chemical engineers have kept pace with inflation. Salaries of chemical engineers by degree level and years since B.S. are shown in **Table 150**.

What a chemical engineer does has an effect on salary. Those chemical engineers working in management, regardless of degree level, report the highest salaries **(Table 151)**. Chemical engineers with supervisory responsibilities report higher salaries than do those with non-supervisory status, regardless of degree level as is shown in **Table 152**.

Salaries also differed by geographic region. The median salary of a B.S. chemical engineer ranged from a high of $59,400 in the West South Central region to a low of $38,000 in the East South Central region, while PhD chemical engineers earned the most in the New England area - $75,000 - and the least in the East North Central - $61,000 **(Table 153)**.

Average annual income for industrial engineers on January 1, 1989 was $48,716, according to the 11th survey on **COMPENSATION OF INDUSTRIAL ENGINEERS**, conducted by **Abbott, Langer & Associates** for the **American Institute of Industrial Engineers**. Median income by degree level ranged from $60,000 for PhD engineers to $38,600 for those with a B.S. in engineering **(Table 154)**.

Median income of industrial engineers rose regularly by length of experience, ranging from $30,788 for those with under one year of experience to $58,000 for those with 30 or more years of experience **(Table 155)**. As expected, median income was highest for industrial engineers who were corporate officers or in general management - $71,016 **(Table 156)**.

Median income varied considerably from one type of employer to another. Median incomes in non-manufacturing organizations were considerably higher ($46,456) than in manufacturing firms ($41,982). The lowest median income of industrial engineers was found in firms manufacturing furniture and wood products, textile mill products, or fabricated metal products (all in the $37,050 to $38,500 range). Industrial engineers who were employed by petroleum & coal product producers reported the highest median income - $56,100 **(Table 157)**.

Median income was highest for industrial engineers employed in New York City & Vicinity - $59,925 - and lowest in Seattle/Everett & Vicinity - $40,987 **(Table 158)**. By primary activity or specialty, the highest median income went to those engaged in "organization, administration - IE department, plant" - $51,650, while the lowest median income was reported by those in work measurement, standards and performance measures - $37,000 - **Table 159)**.

In another survey by **Abbott, Langer & Associates** on **COMPENSATION IN MANUFACTURING - 10th edition** - 255 organizations provided information on managerial, engineering, and technical personnel in the manufacturing field. Naturally, length of experienced played a part in determining income. Median salary ranged from $32,600 for those with less than three years of experience to $45,800 for those with 20-24 years of experience (**Table 160**). By major branch of engineering, computer engineers working in manufacturing reported the highest median salary - $48,325 - while cost/value engineers reported the lowest - $33,986 (**Table 161**).

By type of product manufactured, engineers employed by firms producing furniture and wood products reported the lowest income - $28,000 - while those working for firms producing apparel and textile products reported the highest salary - $46,260 - (**Table 162**). By level of education, median salaries ranged from a low of $36,239 for those engineers with some college but no degree to a high of $48,240 for those with a graduate degree (**Table 163**).

Geographic area had an effect on salaries for engineers working in manufacturing. The highest median salary was reported by those working in Oregon ($49,800) while the lowest was reported by those working in Virginia - $28,509 (**Table 164**). By selected metropolitan area, median salaries ranged from a high of $55,000 for engineers working in the New York area & vicinity to a low of $36,500 for those working in the Buffalo, NY area (**Table 165**). Overall, engineers working in the Southern states reported the highest median salaries - $43,000 while those working in the Mountain states reported the lowest - $37,020 (**Table 166**).

Salaries and total compensation for selected managerial personnel employed in manufacturing are shown in **Table 167**. **Table 168** reports salaries and compensation by type of engineer. Median salaries ranged from a high of $47,490 for pollution control engineers to a low of $31,200 for production engineers.

The median income of members of the **Institute of Electrical and Electronics Engineers, Inc. (IEEE)** who are employed full-time in their primary area of competence is $58,000, according to 6,946 respondents to the tenth survey of the **IEEE U.S. MEMBERSHIP SALARY AND FRINGE BENEFIT SURVEY: 1989**. By highest degree earned, those with a PhD reported the highest median income - $70,000, while those with a bachelor's degree in engineering technology reported the lowest - $43,000 (**Table 169**). According to the survey, income generally rises with age. As shown in **Table 170**, median income for IEEE members under age 24 was $32,700 and increased steadily to $70,000 at age 50, when it leveled off, and started dropping. Median income by industry or service of employer ranged from a high of $62,000 for those employed in the communications industry to a low of $50,000 for those employed in either electrical/electronic manufacturing or in the medical industry (**Table 171**).

As documented in earlier surveys, income rises with up to 20 years of experience where the median stabilizes around $70,000, (**Table 172**). While entry level income for men and women is similar. the disparity grows over time, up to a minimum of $6,000 for those who had 10-19 years experience, (**Table 173**). **Table 174** presents median income by primary area of technical competence. Income ranges from a high of $69,700 for those with technical competence in engineering management to a low of $48,600 for those IEEE members whose primary area of technical competence is in industrial electronics. Median income by level of professional responsibility for IEEE engineers is shown in **Table 175**.

By geographic region, IEEE engineers reported the highest median income working in the Northeast - $63,000 - and the lowest in the Central region - $51,8900, (**Table 176**). By selected metropolitan area, median income ranged from a high of $72,302 for engineers in the Anaheim-Santa Ana CA area followed by those in Albany-Schenectady-Troy, NY at $70,000 to a low of $48,000 in Indianapolis, IN and Milwaukee WI (**Table 177**). By selected state, highest median income was reported by engineers working in Massachusetts at $55,00, while the lowest income was reported by those working in Michigan at $48,000 (**Table 178**).

IEEE engineers working for small companies having 10 or fewer employees or for those having over 500 employees reported the highest median income - $60,000 (**Table 179**). IEEE engineers working for nonprofit organizations reported the highest median salary - $69,000, while those working for state and local governments reported the lowest - $54,000 (**Table 180**). **Table 181** shows that salary disparity exists not only between the sexes, but also by ethnicity. Whites reported median income of $58,500, while blacks reported only $46,500.

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers, 1990.*

TABLE 128

MEDIAN AND MEAN SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP, 1990

EMPLOYMENT GROUP	MEDIAN	MEAN
INDUSTRIAL SECTOR All Manufacturing Industries	$45,950	$49,050
Aerospace	43,050	46,800
Basic Metals	48,150	50,950
Chemicals, Drugs & Plastics	56,200	59,050
Computers	49,200	52,500
Construction	48,950	50,050
Consulting & Engineering Services	50,150	51,800
Consulting	49,400	50,850
Electrical/Gas Utilities	51,650	54,250
Electrical Machinery /Electrnics /Computers	44,550	47,450
Electrical Machinery	46,250	50,700
Electronic Equipment	44,600	47,450
Engineering Services	50,900	52,450
Machinery (non-elec.)	49,300	52,950
Fabricated Metal Prod.	42,600	45,250
Petroleum	65,150	68,000
Precision Instruments	43,300	44,700
Other Durable Goods Manufacturing	48,050	49,900
Other Nondurable Goods Manufacturing	48,850	52,700
NON-INDUSTRIAL SECTOR Communication Services	46,800	48,200
Federal Government	42,150	43,750
State Government	39,000	40,300
Local Government	41,600	43,900
Research & Development Labs	56,700	58,150

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers, 1990*

TABLE 129

NUMBER OF MEDIAN ANNUAL SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP AND SELECTED YEARS SINCE BACCALAUREATE, 1990

Employment Group	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	33 +
All Industries	(2,263) $31,600	(3,661) $33,100	(5,231) $39,450	(4,937) $42,650	(13,836) $47,200	(9,238) $54,650	(9,043) $57,200	(7,293) $59,000	(5,772) $60,600	(8,996) $60,550
All Mfg. Industries	(1,375) 31,500	(1,888) 34,350	(2,682) 38,700	(2,302) 41,600	(6,358) 45,650	(3,726) 52,300	(3,928) 54,600	(3,132) 56,250	(2,520) 57,900	(4,100) 45,950
All Non-Mfg Industries	(1,082) 32,600	(1,574) 34,300	(2,280) 41,250	(2,593) 44,800	(7,436) 49,850	(5,957) 58,150	(5,302) 61,000	(4,343) 62,900	(3,360) 64,450	(4,912) 64,000
Federal Government	(106) 30,650	(110) 32,250	(227) 38,150	(208) 40,650	(216) 43,800	(234) 48,000	(217) 49,250	(221) 50,100	(135) 50,950	(79) 51,250
State Government	(36) 26,350	(58) 27,350	(90) 31,400	(68) 33,400	(131) 36,250	(121) 41,250	(158) 43,250	(108) 44,900	(122) 47,100	(188) 48,600
Local Government	(17) 29,600	(2) 31,250	(27) 38,050	(6) 41,300	(24) 45,700	(18) 51,350	(20) 52,350	(26) 52,450	(18) 50,950	(31) 47,850
Communications Services	(52) 34,200	(85) 35,450	(110) 40,350	(116) 42,650	(334) 45,750	(288) 50,450	(256) 51,950	(159) 52,950	(110) 53,850	(139) 53,800
Consulting & Engineering Services	(424) 29,900	(477) 31,400	(567) 37,700	(565) 40,900	(1,650) 45,550	(1,749) 53,500	(1,584) 56,450	(1,422) 58,550	(1,093) 60,750	(1,617) 61,200
Consulting	(253) 28,650	(313) 30,300	(312) 37,150	(297) 40,500	(915) 45,300	(1,029) 53,150	(914) 56,050	(728) 58,250	(482) 60,900	(784) 62,050
Engineering Services	(341) 30,500	(376) 32,000	(477) 38,000	(477) 41,050	(1,521) 45,500	(1,645) 53,150	(1,426) 56,000	(1,406) 58,150	(1,091) 60,550	(1,568) 61,400
Research Laboratories	(274) 35,850	(641) 37,600	(1,112) 44,900	(1,261) 48,550	(3,677) 53,750	(2,391) 62,300	(2,118) 65,300	(1,782) 67,300	(1,512) 69,150	(2,229) 69,000

NOTE: Blanks indicate too few respondents to compute median salaries.

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers, 1990.*

TABLE 130

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY TYPE OF INDUSTRY AND SELECTED YEARS SINCE BACCALAUREATE, 1990

TYPE OF INDUSTRY	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	33 +
Aerospace	(301) $31,550	(423) $32,500	(746) $36,550	(584) $38,700	(1,152) $42,100	(562) $49,150	(583) $52,550	(598) $55,650	(635) $60,150	(1,754) $59,400
Basic Metals	(43) 31,500	(46) 32,950	(43) 38,950	(67) 42,000	(213) 46,300	(115) 53,550	(135) 56,200	(87) 58,100	(85) 60,150	(89) 60,650
Chemicals, Drugs & Plastics	(634) 33,500	(666) 35,500	(618) 43,550	(732) 47,550	(2,549) 53,100	(1,705) 62,000	(1,385) 65,200	(1,330) 67,500	(1,084) 70,050	(1,278) 70,950
Construction	(129) 28,650	(114) 30,100	(129) 36,100	(115) 39,100	(376) 43,450	(457) 51,000	(382) 54,000	(353) 56,350	(255) 59,350	(341) 60,800
Elec., Machinery,/ Electronics/Computers	(498) 31,450	(750) 32,750	(1,347) 38,000	(1,049) 40,600	(2,486) 44,350	(1,253) 50,700	(1,458) 53,150	(1,170) 55,000	(1,104) 57,400	(2,297) 58,650
Computers	(19) 32,100	(21) 33,850	(46) 41,250	(55) 45,050	(105) 50,550	(65) 59,550	(78) 62,500	(48) 64,450	(32) 65,800	(36) 64,850
Electronic Equipment	(462) 31,450	(699) 32,750	(1,281) 38,050	(990) 40,650	(2,315) 44,400	(1,138) 50,800	(1,330) 53,250	(1,077) 55,150	(1,033) 57,550	(2,188) 58,800
Electrical Machinery	(161) 31,300	(178) 32,900	(253) 39,500	(210) 42,750	(654) 47,400	(455) 55,150	(349) 57,950	(236) 60,050	(156) 62,400	(219) 63,300
Precision Instruments	(12) 31,050	(14) 32,350	(27) 37,500	(26) 39,900	(92) 43,100	(46) 47,650	(42) 48,900	(32) 49,550	(20) 49,650	(29) 48,650
Fabricated Metal Products	(100) 30,900	(116) 32,200	(113) 37,400	(112) 39,900	(248) 43,400	(133) 49,250	(143) 51,450	(101) 53,200	(91) 55,500	(110) 56,650
Other Durable Goods Mfg.	(79) 30,950	(167) 32,100	(181) 36,950	(173) 39,450	(598) 43,200	(541) 50,100	(472) 53,000	(522) 55,400	(394) 58,500	(650) 60,100
Other Non-Durable Goods Mfg.	(67) 32,900	(78) 34,450	(106) 37,900	(83) 40,400	(198) 44,000	(126) 49,950	(101) 52,200	(88) 53,900	(73) 55,950	(111) 57,000
Petroleum	(140) 33,500	(150) 35,700	(87) 45,050	(197) 49,900	(718) 57,200	(443) 70,200	(495) 75,350	(443) 79,450	(332) 84,500	(244) 86,800
Electric Utilities	(128) 32,400	(317) 34,050	(403) 40,700	(629) 44,050	(1,595) 48,900	(1,488) 56,750	(1,310) 59,450	(778) 61,300	(444) 62,900	(661) 62,650
Gas Utilities	(17) 34,500	(17) 35,950	(22) 42,250	(42) 45,550	(90) 50,550	(54) 60,250	(67) 64,650	(32) 68,550	(27) 74,650	(37) 79,950
Machinery, Non-Electrical	(86) 30,900	(93) 32,900	(78) 40,650	(69) 44,150	(233) 48,700	(255) 55,050	(217) 57,000	(148) 58,250	(103) 59,500	(141) 59,900

SOURCE: Engineering Manpower Commission of the American Association of Engineering Societies, *Professional Income of Engineers, 1990*

TABLE 131

MEDIAN SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP AND SUPERVISORY STATUS, 1990

EMPLOYMENT GROUP	Supervisor	Non-Supervisor	Percent Differential
ALL INDUSTRY	$59,300	$44,400	33.6
All Manufacturing Industries	60,600	43,200	40.3
Aerospace	64,650	40,200	60.8
Basic Medels	59,550	43,850	35.8
Chemicals/Drugs/Plastics	71,600	51,700	38.5
Electrical Machinery/Electronics/ Computers	62,450	42,400	47.3
Electrical Machinery	60,350	41,000	47.2
Electronic Equipment	63,750	42,600	49.6
Computers	65,650	45,000	45.9
Fabricated Metal Products	56,000	38,850	44.1
Non-Electrical Machinery	62,000	44,150	40.4
Petroleum	81,550	60,900	33.9
Other Durable Goods Mfg.	59,350	45,000	31.9
Other Nondurable Goods Mfg.	64,750	45,250	43.1
All Non-Manufacturing	58,500	48,000	21.9
Communication Services	53,450	40,750	31.2
Construction	61,150	44,400	37.7
Consulting & Engineering Services	64,350	45,800	40.5
Consulting	63,400	43,800	44.7
Engineering Services	64,450	46,900	37.4
Electric & Gas Utilities	63,250	47,750	32.5
Electric Utilities	63,000	47,800	31.8
Gas Utilities	68,300	45,950	48.6
Research and Development Labs.	57,400	55,400	3.6
Federal Government	54,800	40,600	35.0
State Government	45,400	32,750	38.6

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Engineering Salaries: Special Industry Report 1990*

TABLE 132

NUMBER OF MEDIAN ANNUAL SALARIES OF ALL ENGINEERS EMPLOYED IN INDUSTRY BY HIGHEST DEGREE AND SELECTED YEARS SINCE BACCALAUREATE, 1990

HIGHEST DEGREE	YEARS SINCE BACCALAUREATE									
	1	5	7	9-11	15-17	18-20	21-23	27-29	33 +	Overall
B. S.	(3,420) $32,850	(4,149) $38,550	(3,529) $46,350	(9,291) $45,350	(5,574) $51,850	(5,484) $54,100	(4,122) $55,700	(3,351) $57,350	(6,117) $57,600	(79,118) $45,000
M. S.		(1,028) 44,050	(1,243) 46,650	(3,830) 50,300	(2,787) 56,550	(2,694) 58,950	(2,330) 60,900	(1,791) 63,500	(2,192) 65,200	(29,087) 54,050
Ph. D.		(57) 51,300	(162) 53,250	(715) 56,300	(878) 62,400	(864) 65,200	(840) 67,600	(626) 71,150	(688) 73,400	(7,402) 63,650
ALL LEVELS	(3,661) 33,100	(5,231) 39,450	(4,937) 42,650	(13,836) 47,200	(9,238) 54,650	(9,043) 57,200	(7,293) 59,000	(5,772) 60,600	(8,996) 60,550	(115,606) 48,650

NOTE: Blanks indicate too few respondents to compute median salaries.

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers, 1990.*

TABLE 133

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY GEOGRAPHIC AREA AND SELECTED YEARS SINCE BACCALAUREATE, 1990*

GEOGRAPHIC AREA	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	33 +
New England	(335) $32,850	(659) $34,750	(826) $42,550	(853) $46,400	(2,543) $51,800	(1,607) $59,500	(1,438) $61,450	(1,156) $62,200	(750) $61,400	(971) $58,500
Mid - Atlantic	(803) 31,950	(1,073) 33,600	(1,497) 40,600	(1,599) 44,100	(4,555) 49,050	(3,183) 56,850	(3,064) 59,250	(2,426) 60,700	(2,019) 61,450	(3,701) 60,250
East North Central	(1,001) 32,600	(1,269) 34,250	(1,784) 41,200	(1,741) 44,700	(5,110) 49,600	(3,592) 57,250	(3,097) 59,650	(2,[illegible]) 6[illegible],050	(1,721) 61,850	(2,107) 60,700
West North Central	(101) 30,300	(142) 31,750	(189) 37,700	(197) 40,550	(615) 44,450	(347) 49,950	(322) 51,400	(186) 52,100	(163) 51,950	(203) 50,350
South Atlantic	(567) 32,800	(902) 34,550	(1,431) 41,900	(1,551) 45,600	(4,173) 50,850	(2,589) 59,050	(2,451) 61,550	(1,998) 63,000	(1,595) 63,650	(2,697) 62,150
East South Central	(287) 30,250	(372) 31,700	(371) 37,800	(334) 40,800	(1,030) 45,150	(908) 52,650	(706) 55,650	(751) 58,000	(543) 61,150	(797) 62,800
West South Central	(574) 30,600	(613) 32,100	(873) 38,250	(853) 41,350	(2,097) 45,750	(1,120) 53,050	(987) 55,600	(885) 57,350	(632) 59,050	(1,046) 59,050
Mountain	(35) 31,150	(80) 32,850	(149) 40,050	(136) 43,800	(451) 49,250	(325) 58,450	(336) 61,650	(267) 63,850	(249) 65,650	(326) 65,150
Pacific Coast	(360) 33,350	(400) 35,000	(502) 41,900	(578) 45,450	(1,859) 50,600	(1,477) 59,550	(1,332) 62,900	(1,310) 65,400	(1,159) 68,150	(1,851) 69,050

*Includes only engineers employed in industry.

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers, 1990*

TABLE 134

MEDIAN AND MEAN SALARIES OF ENGINEERS BY GEOGRAPHICAL REGION, 1990*

GEOGRAPHICAL REGION	MEDIAN	MEAN
Pacific	$56,100	$58,450
Middle Atlantic	51,100	52,500
Mountain	54,150	56,200
New England	51,750	52,500
East North Central	50,500	52,300
West North Central	44,150	45,600
East South Central	49,300	51,000
West South Central	44,200	48,500
South Atlantic	52,550	53,900

*Includes only engineers in industry or government.

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer and Associates *Professional Engineer Income and Salary Survey,* 1986, 1989 and 1990.

TABLE 135

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY EDUCATION, 1986-1990

LEVEL OF EDUCATION	MEDIAN INCOME			% INCREASE	
	1986	1989	1990	1986-90	1989-90
Less than BA/BS Degree	$46,592	$52,784	$56,291	17.2	6.2
B.A. Degree	48,015	59,000	58,850	18.4	-0.3
B.S. Degree (Non-Engineering)	48,000	54,000	55,000	12.7	1.8
B.S. Degree (Engineering)	45,000	50,000	52,100	13.6	4.0
M.A./M.S. Degree (not MBA or Engineering)	50,400	54,500	58,000	13.1	6.0
MBA. Degree	50,500	56,000	60,000	15.8	6.7
M.A./M.S. Degree in Engineering	49,000	56,200	58,870	16.8	4.5
MBA & an M.A./M.S. Degree	*	62,000	66,750		7.1
Doctorate (Non-Engineering)	58,565**	67,000	66,000	11.3	1.5
Doctorate (Engineering)		68,000	72,500		6.2

* Data Not Available ** Includes All Doctorates.

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey,* 1990.

TABLE 136

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY LEVEL OF EDUCATION AND LENGTH OF EXPERIENCE, 1990

LENGTH OF EXPERIENCE	Less than Bachelor's Degree	B.S. in Engineering	M.S in Engineering	Doctorate in Engineering	M.B.A.
Under 1 Yr.	$	$30,000	$33,500	$	$
1 Yr.		30,500	36,500		
2 Yrs.		31,800	32,930		
3 Yrs.		33,400	35,500	39,450	39,700
4 Yrs.		36,000	37,647		
5-9 Yrs.	39,150	41,200	42,600	51,000	45,350
10-14 Yrs.	46,908	50,000	53,000	51,148	53,440
15-19 Yrs.	50,500	56,676	59,445	65,316	61,900
20-24 Yrs.	56,000	60,000	65,000	76,450	69,856
25-29 Yrs.	53,730	65,000	68,500	78,800	71,160
30 Yrs. or More	60,800	66,000	70,622	77,336	81,500
TOTAL	56,291	52,100	58,870	72,500	60,000

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer and Associates *Professional Engineer Income and Salary Survey,* 1986, 1989 and 1990.

TABLE 137

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY REGION, 1986-1990

REGION	MEDIAN INCOME			% INCREASE	
	1986	1989	1990	1986-90	1989-90
NORTHEASTERN STATES	$50,210	$58,207	$60,405	16.9	3.6
SOUTHERN STATES*	45,700	51,480	54,000	15.4	4.7
GREAT LAKES STATES	45,229	52,392	55,000	17.8	4.7
GREAT PLAINS STATES	43,743	48,000	50,000	12.5	4.0
SOUTHWESTERN STATES	48,000	51,123	54,800	12.4	6.7
PACIFIC & WESTERN STATES**	49,500	56,195	58,270	15.1	3.6

* Includes Puerto Rico and Panama, ** Includes Alaska, Hawaii, and Guam.

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates. *Professional Engineer Income and Salary,Survey, 1990,* May 1990

TABLE 138

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF PROFESSIONAL ENGINEERS BY METROPOLITAN AREA, 1990

METROPOLITAN AREA	Number Reported	Median	Mean
Atlanta (GA) & Vicinity	227	$57,840	$72,079
Baltimore (MD) & Vicinity	98	60,000	71,075
Birmingham (AL) & Vicinity	76	53,262	61,254
Boston/Lawrence/Salem (MA/NH) & Vicinity	239	62,000	73,124
Buffalo/Niagara Falls (NY) & Vicinity	72	51,253	56,209
Charlotte/Gastonia/Rock Hill (NC/SC) & Vicinity	187	52,000	57,621
Chicago/Gary/Lake County (IL/IN/WI) & Vicinity	487	60,000	73,335
Cincinnati/Hamilton (OH/KY/IN) & Vicinity	100	52,125	58,388
Cleveland/Akron/Lorain (OH) & Vicinity	188	52,025	64,197
Columbus (OH) & Vicinity	149	52,250	67,098
Dallas/Ft Worth (TX) & Vicinity	442	55,214	65,485
Dayton/Springfield (OH) & Vicinity	65	46,500	56,358
Denver/Boulder/Colorado Springs (CO) & Vicinity	154	54,850	64,369
Detroit/Ann Arbor (MI) & Vicinity	324	60,000	73,724
Hartford/New Britain/Middletown (CT) & Vicinity	92	59,600	70,174
Houston/Galveston/Brazoria (TX) & Vicinity	380	61,900	75,217
Indianapolis (IN) & Vicinity	111	58,320	73,874
Kansas City (MO/KS) & Vicinity	262	53,970	62,792
Los Angeles/Anaheim/Long Beach/Riverside (CA) & Vicinity	275	64,735	77,900
Louisville (KY/IN) & Vicinity	122	49,445	54,371
Memphis TN/AR/MS) & Vicinity	82	49,148	60,517
Miami/Fort Lauderdale (FL) & Vicinity	190	59,150	69,795
Middlesex/Somerset/Hunterdon Counties (NJ) & Vicinity	91	65,380	80,852
Milwaukee/Racine (WI) & Vicinity	155	52,945	62,893
Minneapolis/St. Paul (MN/WI) & Vicinity	197	52,000	60,632
Monmouth/Ocean Counties (NJ) & Vicinity	44	55,300	70,502
Nashville (TN) & Vicinity	83	49,200	61,414
Naussau/Suffolk Counties (NY) & Vicinity	125	66,000	76,383
New Orleans (LA) & Vicinity	131	55,000	68,654
New York City (NY) 5 Boroughs	349	71,000	89,050
Newark/Jersey City (NJ) & Vicinity	227	65,600	80,249
Norfolk/Virginia Beach/Newport News (VA) & Vicinity	114	52,800	60,798
Oklahoma City (OK) & Vicinity	118	50,243	58,466
Orlando (FL) & Vicinity	156	62,100	69,821
Philadelphia/Wilmington (PA/NJ/DE/MD) & Vicinity	400	59,220	68,874
Phoenix (AZ) & Vicinity	99	57,000	64,998
Pittsburgh (PA) & Vicinity	202	52,250	58,188
Portland/Vancouver (OR/WA) & Vicinity	55	53,460	67,279
Providence/Pawtucket/Fall River (RI/MA) & Vicinity	38	57,330	68,958
Rochester (NY) & Vicinity	70	58,352	62,025
Sacramento (CA) & Vicinity	39	59,600	63,223
Salt Lake City/Ogden (UT) & Vicinity	36	55,200	64,085
San Antonio (TX) & Vicinity	119	53,000	66,722
San Diego (CA) & Vicinity	29	57,555	74,466
San Francisico/Oakland (CA) & Vicinity	126	66,200	90,182
San Jose (CA) & Vicinity	67	68,000	80,094
Seattle/Tacoma (WA) & Vicinity	88	55,000	61,918
St. Louis (MO/IL) & Vicinity	260	54,350	64,653
Tampa/St. Petersburg/Clearwater (FL) & Vicinity	161	54,000	61,425
Washington (DC/MD/VA) & Vicinity	406	60,430	67,272

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey, 1990,* May 1990

TABLE 139

NUMBER REPORTED, MEAN AND MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY INDUSTRY OR SERVICE OF EMPLOYER, 1990

INDUSTRY OR SERVICE OF EMPLOYER	Total Employees Reported	Median	Mean
ALL MANUFACTURING/EXTRACTIVE EMPLOYERS	2,684	$55,200	$64,209
Aerospace & Aircraft Products	283	51,500	57,616
Chemical, Pharmaceutical & Allied Products	290	59,469	69,058
Coal Products	56	58,852	67,227
Electrical & Electronic Equipment	415	55,000	64,714
Fabricated Metal Products	264	52,382	61,965
Food, Beverage & Tobacco Products	118	63,050	70,722
Machinery (except electrical)	168	52,368	62,496
Petroleum & Natural Gas Products	313	63,000	73,387
Primary Metal Industries	88	55,900	62,644
Rubber & Plastic Products	83	52,500	65,639
Stone, Clay & Glass and Concrete Products	122	54,875	60,783
Transportation Equipment	163	50,200	57,378
ALL NON-MANUFACTURING/EXTRACTIVE EMPLOYEES	9,781	55,546	66,420
College & Universities	495	62,760	66,812
Communication Services	166	57,600	65,156
Construction & Real Estate Development	788	64,113	82,094
Government-Federal (including Military)	638	47,050	50,056
Government- State	511	47,500	48,284
Government-Local (Cities/Counties/Etc.)	923	48,500	51,053
Private Practice-Chemical	33	66,200	97,250
Private Practice-Civil/Structural	2,072	55,140	67,839
Private Practice-Electrical	130	63,000	76,397
Private Practice-Electronics	14	69,750	76,194
Private Practice-Mechanical	197	60,930	72,068
Private Practice-Other or Combination of above	1,800	62,774	77,963
Research Organizations & Laboratories	143	60,000	65,656
Transportation Services	70	58,793	68,646
Utilities-Electric	876	54,000	59,692
Utilities-Gas	128	50,180	58,226
Utilities-Pipelines	73	54,000	62,691
Utilities-Other or Mixed	216	58,430	65,354

SOURCE: National Society of Professonal Engineers, Prepared by Abbott, Langer and Associates, *Professional Engineer Income and Salary Survey, 1990,* May 1990

TABLE 140

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY BRANCH OF ENGINEERING AND LENGTH OF EXPERIENCE, 1990

BRANCH OF ENGINEERING	UNDER 1 YR.	1 YR.	2 Yrs.	3Yrs.	4 Yrs.	5-9 Yrs.	10-14 Yrs.	15-19 Yrs.	20-24 Yrs.	25-29 Yrs.	30 Yrs. or More
Aeronautical & Aerospace	$	$32,125	$32,200	$40,000	$36,751	$41,600	$46,750	$56,680	$65,116	$60,250	$72,000
Agricultural					33,280	44,000	48,000	47,821	68,466	49,550	54,940
Architectural						47,896	47,760	64,400	61,288	69,100	70,000
Chemical		38,500	34,400	35,950	36,300	42,650	55,100	59,880	74,500	79,150	72,050
Civil (General)	27,000	30,000	29,723	31,149	33,000	39,235	49,250	54,910	60,000	63,204	65,000
Civil (Primarily Structural)	29,625	26,380	32,125	29,589	36,500	40,960	49,000	57,335	62,500	73,600	72,180
Civil (Primarily Surveying						35,485	49,000	60,600	54,358	70,000	64,800
Cost/Value						46,554		52,800	62,187	63,420	67,069
Electrical & Electronics	31,490	31,600	33,848	36,500	37,272	43,569	51,540	58,326	62,573	70,000	67,650
Industrial			34,800	34,160		43,600	55,100	60,850	51,761	66,250	78,720
Manufacturing		30,200	31,600	31,300	38,705	39,812	48,360	52,962	65,000	70,000	70,000
Mechanical	30,833	31,346	32,400	35,755	37,833	42,905	51,287	59,000	64,860	65,000	70,000
Metallurgical & Materials						42,000		52,338	59,900	61,122	60,205
Mining						43,000	54,325	65,625	60,000		76,300
Nuclear				36,165		45,552	60,000	66,100	69,250	72,060	80,350
Petroleum					38,500	45,752	60,600	78,000	71,000	98,000	76,100
Safety							46,969	54,000	60,000	45,000	75,920
Sanitary, Envir. & Pollution Control			26,800	32,148	36,603	42,520	53,732	63,000	67,430	72,000	67,575

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey*, 1986, 1989 and 1990.

TABLE 141

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY BRANCH OF ENGINEERING, 1986-1990

BRANCH OF ENGINEERING	MEDIAN INCOME			% INCREASE	
	1986	1989	1990	1986-90	1989-90
Aeronautical and Aerospace	$47,000	$51,700	$52,000	9.6	0.6
Agricultural	45,672	49,400	48,340	5.5	-2.2
Architectural	46,000	56,250	58,000	20.7	3.0
Chemical	49,306	53,700	60,000	17.8	10.5
Civil (General)	45,000	51,250	53,646	16.1	4.5
Civil (Primarily Structural	48,000	54,000	55,675	13.8	3.0
Civil (Primarily Surveying)	42,000	46,800	52,550	20.1	10.9
Cost/Value	46,435	54,325	55,007	15.6	1.2
Electrical & Electronics	48,691	53,904	56,550	13.9	4.7
Industrial	47,928	48,553	52,444	8.6	7.4
Manufacturing	42,250	52,021	48,680	13.2	-6.9
Mechanical	48,000	52,722	56,567	15.1	6.8
Metallurgical & Materials	49,350	52,000	56,000	11.9	7.1
Mining		51,700	55,500		6.8
Nuclear	50,000	58,664	62,750	20.3	6.5
Petroleum	52,850*	65,600	64,500	18.1	-1.7
Safety	49,965	48,000	52,700	5.2	8.9
Sanitary, Environmental & Pollution Control	45,348	54,000	57,000	20.4	5.3

* Includes Mining NOTE: Blanks indicates no data available.

TABLE 142

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY JOB FUNCTION 1986-1990

JOB FUNCTION	MEDIAN INCOME			% INCREASE	
	1986	1989	1990	1986-90	1989-90
Construction Supervision	$42,000	$47,000	$51,250	18.1	8.3
Design	40,800	46,000	48,000	15.0	4.2
Executive/Administrative	56,800	65,000	69,800	18.6	6.9
Production, Quality Control, Maintenance, Etc.	42,000	46,784	48,252	13.0	3.0
Project Study & Analysis	42,640	48,215	51,080	16.5	5.6
Research and Development	47,200	54,755	55,000	14.2	0.4
Sales/Marketing	46,375	52,453	54,400	14.8	3.6
Teaching/Training	46,726	52,317	56,750	17.7	7.8

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey*, 1990

TABLE 143

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY JOB FUNCTION AND LENGTH OF EXPERIENCE, 1990

LENGTH OF EXPERIENCE	Construction/ Supervision	Project Study & Analysis	Design	Executive/ Administrative	Production, Quality Control, Maintenance	Research and Development	Sales/ Marketing	Teaching/ Training
Under 1 Yr.	$33,750	$31,280	$30,000	$	$30,500	$	$	$
1 Yr.	30,348	31,600	30,050	50,000	33,737	33,850		
2 Yrs.	30,500	32,930	30,900	32,812	33,000	33,129	35,200	
3 Yrs.	33,870	35,820	31,921	38,000	36,000	35,450	34,738	
4 Yrs.	34,045	36,852	34,056	39,294	38,500	37,125	37,000	
5-9 Yrs.	43,310	42,582	39,898	45,783	42,158	43,596	45,966	44,250
10-14 Yrs.	52,047	50,000	48,000	55,245	50,020	52,698	52,100	45,194
15-19 Yrs.	56,000	56,806	54,000	65,000	50,900	60,000	60,009	45,661
20-24 Yrs.	58,866	60,000	56,620	71,000	55,250	63,621	64,499	59,760
25-29 Yrs.	63,000	62,400	59,987	74,315	59,484	66,500	62,500	55,250
30 Yrs. or More	61,606	63,000	59,000	77,200	59,500	63,060	66,250	64,063

Source: American Institute of Chemical Engineers, *AIChE 1990 Salary Survey Report*

TABLE 144

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* BY YEAR OF B. S. AND SEX, 1990

YEAR OF B. S.	MEDIAN		MEAN	
	MEN	WOMEN	MEN	WOMEN
1989	$34,100	$32,500	$36,994	$31,700
1988	34,600	33,000	34,497	32,045
1987	34,500	36,900	32,402	36,031
1986	36,000	37,100	35,546	35,291
1985	38,000	37,600	38,238	36,960
1984	40,000	39,650	44,751	37,375
1983	42,000	41,600	48,900	40,820
1982	45,000	45,000	45,946	44,812
1981	47,000	47,000	48,062	46,944
1980	48,650	51,750	48,682	53,729
OVERALL	55,900	40,000	62,437	42,443

* Includes only members of the American Institute of Chemical Engineers

TABLE 145

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* BY LEVEL OF DEGREE, 1990

DEGREE LEVEL	MEDIAN	MEAN
B. S.	$54,000	$60,438
M. S.	60,000	65,347
Ph. D.	65,500	74,044
MBA	61,250	66,244

* Includes only members of the American Institute of Chemical Engineers

Source: American Institute of Chemical Engineers, *AIChE 1990 Salary Survey Report*

TABLE 146

MEDIAN SALARIES OF CHEMICAL ENGINEERS* BY COMPANY SIZE, 1990

COMPANY SIZE	MEDIAN SALARY
1 - 999 Employees	$48,000
200 - 499 Employees	51,900
500 - 999 Employees	51,750
1,000 - 4,999 Employees	55,200
5,000 or More Employees	56,200

* Includes only members of the American Institute of Chemical Engineers

TABLE 147

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* BY YEARS OF EXPERIENCE, 1990

YEARS OF EXPERIENCE	MEDIAN	MEAN
0 - 5 Years	$37,200	$39,746
6 - 10 Years	47,550	50,064
11 - 15 Years	55,500	57,897
16 - 20 Years	63,950	67,322
21 - 25 Years	72,200	76,659
26 - 30 Years	73,850	78,817
31 - 35 Years	75,200	83,431
36 - 40 Years	68,200	87,949
41 or more Years	60,500	78,711

* Includes only members of the American Institute of Chemical Engineers

SOURCE: American Institute of Chemical Engineers, *AIChE 1990 SALARY SURVEY REPORT*

TABLE 148

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* BY WORK FUNCTION, 1990

WORK FUNCTION	Median	Mean
Construction	$49,000	$42,640
Consulting	54,350	60,786
Data Processing	67,300	72,211
Design	46,350	48,721
Education - 12 months	66,500	63,775
Education - 9 months	61,000	60,842
Environmental Engineering	46,000	52,314
Human Resources	61,900	61,900
Legal; Patents; Licensing	65,000	71,880
Maintenance	54,600	54,346
Management, General	82,900	93,170
Management, Technical	71,300	76,588
Planning and/or Economics	60,200	60,335
Process Engineering	47,550	51,676
Product Engineering	41,400	43,649
Production	50,000	54,002
Project Management	57,200	58,682
Purchasing	65,000	63,989
Quality Control	49,000	51,787
Research & Development	54,000	60,214
Sales and Marketing	56,000	57,373
Technical Service	48,750	49,684
Technical Writing	43,950	43,950
Testing; Analysis	46,100	46,117
Other	52,800	56,353

* Includes only members of the American Institute of Chemical Engineers

SOURCE: American Institute of Chemical Engineers, *AIChE 1990 SALARY SURVEY REPORT*

TABLE 149

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* BY PRODUCT SPECIALTIES, 1990

PRODUCT SPECIALTIES	Median	Mean
Aerospace; Aeronautics; Astronautics	$46,000	$45,338
Agricultural Chemicals Fertilizers; Herbicides	58,300	74,565
Alternative Energy Sources Synthetic Fuels	59,600	74,758
Analysis; Testing	55,250	59,250
Automotive	39,400	41,531
Biotechnology	54,750	57,630
Carbon & Its Products	62,800	60,317
Catalysts	54,000	56,489
Chemicals - Inorganic	56,350	60,893
Chemicals - Organic	56,600	61,499
Chemical Specialties	58,100	69,609
Coal, Coke, By-Products and Gas	60,300	62,733
Education	61,000	57,936
Electronic Materials	47,350	53,111
Electronics; Computers	48,600	53,855
Engineering Design, Construction or Consulting	59,000	62,931
Enviromental Engineering & Equipment	44,900	55,919
Explosives	33,700	39,383
Foods; Beverages	54,500	59,442
Forest Products; Cellulose	50,200	55,263
Glass, Ceramics, Refractories	55,000	68,880
Government (Federal)	43,050	46,803
Government (State)	35,000	34,888
Government (Other)	36,700	38,440
Instruments; Process Control Equipment	54,100	66,790
Metals; Metallurgical Products; Minerals Proc.	44,450	53,239
Natural Gas	70,700	71,011
Nuclear Energy & Allied	54,400	58,750
Paint; Varnish; Lacquer; Pigments	50,300	57,688
Petrochemicals	62,500	74,087
Petroleum Production	70,500	69,836
Petroleum Refining	63,500	67,772
Pharmaceuticals; Health Care	50,000	56,738
Photographic Products	58,900	70,353
Plastics & Synthetic Resins (inc. Composites)	54,100	59,627
Process Epuipment Manufacture	57,000	60,277
Publications	62,550	62,550
Public Utilities	45,700	51,200
Rubber & Rubber Products	49,200	55,780
Safety & Health	45,450	50,092
Soaps; Detergents: Perfumes; Fats; Oils; Cosmetics	48,750	50,839
Synthetic Fibers, Textiles, or Films	55,850	55,814
Other Products	49,600	57,219

*Includes only members of the American Institute of Chemical Engineers

SOURCE: American Chemical Society, *Salaries 1990 - An Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment,* July 1990.

TABLE 150

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* EMPLOYED FULL-TIME IN INDUSTRY BY HIGHEST DEGREE AND YEARS SINCE B. S., 1990

YEARS SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
2-4	$34,128	$34,591	$36,000	$36,881	$	$
5-9	38,634	39,546	42,000	43,126	50,000	49,632
10-14	48,840	48,898	50,500	51,896	53,750	55,474
15-19	54,000	55,556	53,393	55,583	61,000	64,024
20-24	60,400	61,462	59,400	62,497	74,600	78,962
25-29	56,700	61,980	65,000	70,427	80,040	82,935
30-34	66,950	75,041	69,100	75,764	81,250	85,764
35-39	70,000	72,915	66,500	73,710	89,250	89,006
40 or More	61,000	72,686	65,634	75,098	79,000	91,250
All Years	49,400	55,190	55,000	60,080	65,000	71,264

*Includes only members of the American Chemical Society.

Note: Blanks indicate less than 15 respondents.

TABLE 151

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* EMPLOYED FULL-TIME IN INDUSTRY BY FUNCTION AND DEGREE LEVEL, 1990

Work Function	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
Management R&D	$66,000	$69,120	$71,000	$74,930	$81,100	$89,394
Basic Research					57,160	62,646
Applied Research	46,000	47,429	50,250	52,622	57,000	62,740
General Management	65,250	79,143	79,000	82,218	90,000	99,058
Marketing	50,400	59,003	57,920	59,163	71,900	74,359
Health & Safety	51,400	54,793	50,000	52,425		
Computers					63,000	63,407
Production	43,100	47,052	45,512	47,802	56,710	61,792
Consulting	48,000	51,484	54,500	55,272	70,080	73,599
Other**	50,000	52,133	54,144	59,697	74,000	78,594

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 Resopndents.

SOURCE: American Chemical Society, *Salaries 1990 - An Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 152

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* EMPLOYED FULL-TIME IN INDUSTRY BY DEGREE LEVEL, SUPERVISORY STATUS AND YEARS SINCE B. S., 1990

SUPERVISORY STATUS & YEARS SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
NON-SUPERVISORS TOTAL	**$42,000**	**$46,643**	**$49,000**	**$51,865**	**$57,330**	**$61,276**
2-4	34,155	34,586				
5-9	38,000	38,420	41,724	41,525	49,590	49,253
10-14	45,500	45,442	48,000	49,075	52,000	53,089
15-19	49,580	51,894	48,000	48,820	58,260	59,669
20-24	51,400	55,630	53,200	52,987	66,028	66,151
25-29	53,600	58,553	58,962	57,847	71,160	71,754
30-34	58,900	60,458	60,480	67,822	74,000	76,258
35-39	59,000	61,516	59,400	61,760	68,750	73,995
40 or More	60,000	62,687	59,250	62,685	74,150	76,066
SUPERVISORS TOTAL	**59,800**	**64,202**	**62,000**	**67,476**	**75,000**	**79,765**
5-9	42,000	42,536	45,450	45,477	50,000	50,528
10-14	52,200	52,418	54,720	54,263	56,000	58,754
15-19	56,000	57,037	62,000	61,623	65,000	67,655
20-24	63,095	64,195	70,800	72,022	80,350	85,982
25-29	57,000	64,791	75,300	76,561	85,500	88,866
30-34	72,250	82,980	75,000	81,743	87,000	91,748
35-39	74,200	82,524	72,000	83,998	95,000	100,526
40 or More	69,000	79,844	78,200	87,774	81,132	106,542

* Includes only members of the American Chemical Society

NOTE: Blanks indicate fewer than 15 respondents.

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of the American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990

TABLE 153

MEDIAN AND MEAN SALARIES OF FULL-TIME CHEMICAL ENGINEERS* BY GEOGRAPHICAL REGION AND DEGREE LEVEL, 1990

GEOGRAPHIC REGION	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
Pacific	$50,000	$52,580	$54,288	$57,657	$68,580	$73,158
Mountain	45,000	51,313			62,000	65,205
West North Central	44,400	50,488	54,290	60,056	66,500	72,648
West South Central	59,400	62,232	62,250	64,295	68,840	74,489
East North Central	48,000	56,715	52,680	57,442	61,000	66,494
East South Central	38,000	46,017	51,150	53,840	62,500	64,387
Middle Atlantic	50,000	55,323	56,750	63,695	66,600	72,450
South Atlantic	50,000	56,368	53,500	57,569	58,900	69,602
New England	51,000	53,429	55,000	61,293	75,000	75,203

*Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondants.

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers*, 11th Edition, April 1989

TABLE 154

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY DEGREE LEVEL, JANUARY 1, 1989

DEGREE LEVEL	Total Employees	Median Income	Mean Income
Ph. D.	361	$60,000	$66,633
ME/MS/MA Degree	1,111	48,600	54,480
MBA	802	51,250	57,443
B.S. (Engineering)	2,733	38,600	43,215
B.A./B.S. (Non-Engineering	768	42,460	46,877
Less than Bachelor's Degree	400	37,748	40,961

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers,* 11th Edition, April 1989

TABLE 155

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY YEARS OF EXPERIENCE, JANUARY 1, 1989

YEARS OF EXPERIENCE	Total Employees	Median Income	Mean Income
Under One Year	154	$29,524	$30,788
One Year	203	30,000	31,117
Two Years	389	31,000	31,709
Three Years	345	33,675	34,627
Four Years	373	36,000	38,044
5 Through 9 Years	1,363	40,430	42,065
10 Through 14 Years	934	46,483	49,430
15 Through 19 Years	778	51,175	55,443
20 Through 24 Years	628	53,741	59,236
25 Through 29 Years	508	54,886	65,647
30 Years and Over	542	58,000	66,781

TABLE 156

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY PRIMARY JOB FUNCTION, JANUARY 1, 1989

PRIMARY JOB FUNCTION	Total Employees Reported	Median Income	Mean Income
Corporate Official, General Management	446	$71,016	84,069
Functional Management, Department Head	1,235	53,600	56,694
Supervisor of Technical or Professional Personnel	667	47,000	48,225
Engineer, Analyst or Other Professional	2,913	36,900	38,446
Consultant	495	49,500	55,681
Educator	309	52,000	55,739

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers*, 11th Edition, April 1989

TABLE 157

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY TYPE OF EMPLOYER, JANUARY 1, 1989

TYPE OF EMPLOYER	Total Employees	Median Income	Mean Income
MFG./EXTRACTIVE ORGANIZATIONS	4,082	$41,982	$46,749
Aerospace & Aircraft Products	546	41,000	45,217
Apparel & Other Textile Products	146	42,400	48,023
Chemical, Pharmaceutical & Allied Products	239	52,000	57,567
Electrical & Electronic Equipment	777	42,000	46,244
Fabricated Metal Products	441	38,500	42,830
Food, Beverage & Tobacco Products	279	47,500	51,729
Furniture & Wood Products	100	37,050	41,395
Instruments, Controls & Related Products	69	43,400	48,370
Machinery (Except Electrical)	94	42,530	49,989
Paper & Allied Products	103	43,000	51,084
Petroleum & Coal Products	17	56,100	53,715
Primary Metal Industries	126	42,955	47,152
Printing & Publishing	80	41,092	44,042
Rubber & Plastics Products	175	40,000	44,840
Stone, Clay & Glass Products	68	40,250	43,901
Textile Mill Products	106	38,444	44,161
Transportation Equipment	318	41,529	47,268
NON-MFG./EXTRACTIVE ORGANIZATIONS	2,137	46,456	52,454
Banks & Finance Organizations	78	41,642	61,015
College & Universities	338	52,313	56,543
Communications Services (T.V., Radio, Telephone & Telegraph)	52	49,000	51,926
Consultants (Engineering)	232	50,000	57,434
Consultants (Non-Engineering)	158	52,000	63,726
Government - Federal (including Military & Postal Service)	355	42,158	43,983
Government - State & Local	53	41,900	44,068
Health Care Organizations (Hospital & Nursing Homes)	172	42,794	48,042
Mechandising (Wholesale & Retail)	108	42,500	55,052
Transportation Services	132	50,000	52,243
Utilities	230	46,704	49,077

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers,* 11th Edition, April 1989

TABLE 158

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY METROPOLITAN AREA, JANUARY 1, 1989

METROPOLITAN / GEOGRAPHIC AREA	Total Employees Reported	Median Income	Mean Income
NORTHEASTERN STATES	**1,305**	**$44,400**	**$50,792**
Boston & Vicinity	146	46,500	49,867
New Youk City & Vicinity (NY/NJ/CT)	419	50,925	58,439
Philadelphia & Vicinity (PA/NJ)	196	42,600	47,580
Pittsburgh & Vicinity (PA/OH)	107	41,440	45,391
Northeastern States (excluding specific areas above)	437	41,600	46,532
SOUTHEASTERN STATES	**1,647**	**42,250**	**46,731**
Atlanta & Vicinity	182	42,739	48,849
Washington/Baltimore & Vicinity (DC/MD/VA)	244	43,690	49,645
State of Florida	222	42,900	47,184
Southeastern States (excluding specific areas above)	999	41,559	45,532
GREAT LAKES STATES	**1,289**	**42,224**	**48,538**
Chicago & Vicinity (IL/IN)	315	45,600	52,762
Detroit & Vicinity	162	44,381	51,135
State of Ohio	356	42,446	48,184
Great Lakes States (excluding specific areas above)	456	39,750	44,973
NORTH CENTRAL STATES	**538**	**41,519**	**45,252**
Minneapolis/St. Paul & Vicinity (MN/WI)	111	41,800	43,302
St. Louis & Vicinity (MO/IL)	139	41,000	44,242
North Central States (excluding specific areas above)	288	41,519	46,491
SOUTH CENTRAL STATES	**461**	**42,631**	**47,608**
Dallas/Ft. Worth & Vicinity	176	39,667	45,069
Houston & Vicinity	75	47,938	54,190
South Central States (excluding specific areas above)	210	44,500	47,385
MOUNTAIN STATES	**245**	**45,576**	**48,695**
Denver/Boulder/Colorado Springs/ Pueblo & Vicinity	67	45,760	49,196
Phoenix & Vicinity	77	45,500	47,919
Mountain States (excluding specific areas above)	101	46,000	48,955
PACIFIC STATES	**696**	**46,175**	**53,049**
Los Angeles/San Diego & Vicinity	322	46,450	52,792
San Francisco/Oakland & Vicinity	189	48,000	58,155
Seattle/Everett & Vicinity	68	40,987	51,886
Pacific States (excluding specific areas above)	117	43,000	46,184

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers,* 11th Edition, April 1989

TABLE 159

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY PRIMARY ACTIVITY OR SPECIALTY, JANUARY 1, 1989

PRIMARY ACTIVITY OR SPECIALTY	Total Employees Reported	Median Income	Mean Income
Cost control/Reduction Programs	451	$40,000	$44,611
Engineering Economics	86	44,750	48,730
Facility Planning Design, Layout Environment Protection	397	42,000	46,964
Management Information Systems	274	43,601	48,546
Computer Operations, Systems, Software	231	41,300	46,179
Organizations, Admin.-IE Dept., Plant	636	51,650	56,842
Materials Handling	112	42,750	46,419
Warehousing, Shipping, Receiving	77	41,000	46,111
Methods, Engineering, Proc. Design, Value Analysis, Human Productivity	741	39,000	41,989
Manufacturing Engineering, Automation	548	42,612	45,247
Maintenance, Plant Engineering	127	45,700	48,477
Operations Supervision, Assembly, Clerical, Office	152	47,014	52,773
Mathematical Models, Networks, Simulation	204	46,750	51,619
Production and Inventory Control, Scheduling, Forecasting	191	41,000	44,986
Materials Management	90	49,160	52,777
Quality Control, Reliability	219	42,496	45,551
Work Measurement, Standards Performance Measures	590	37,000	39,698
Incentive Plans, Groups, Individ., Supervisors	73	40,150	44,602

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing, Engineers and Managers,* 10th Edition, May 1990

TABLE 160

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY YEARS OF EXPERIENCE, 1990

YEARS OF EXPERIENCE	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Under 3 Years	110	$32,600	$32,916	110	$33,350	$33,958
3 - 4 Years	59	36,000	35,831	59	36,000	36,667
5 - 9 Years	172	39,471	39,218	172	40,500	40,647
10 - 14 Years	119	40,000	40,407	119	40,800	42,329
15 - 19 Years	73	44,070	44,523	73	44,070	46,472
20 - 24 Years	37	45,800	45,920	37	48,160	50,076
25 - 29 Years	29	44,303	47,334	29	46,699	52,017
30 Years or More	28	44,340	47,263	28	44,340	49,727

TABLE 161

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY MAJOR BRANCH OF ENGINEERING, 1990

MAJOR BRANCH OF ENGINEERING	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Chemical	13	$36,000	$40,583	13	$39,996	$43,328
Civil	19	45,264	44,554	19	46,008	45,126
Computer	8	48,325	45,854	8	50,725	48,084
Construction	9	28,000	34,613	9	28,000	34,891
Cost/Value	6	33,986	31,582	6	35,776	32,483
Electrical/Electronics	42	46,856	47,444	42	48,626	51,886
Engineering Technology	9	44,070	40,053	9	45,460	43,938
Industrial	74	36,275	38,248	74	38,185	38,788
Manufacturing	210	39,019	40,107	210	39,620	41,327
Mechanical	142	41,210	41,688	142	42,308	43,170
Metallurgical/Materials	34	45,065	43,548	34	47,180	47,556
Safety	6	37,866	38,345	6	38,003	38,391
Sanitary/Environmental/Pollution Control	11	36,478	41,283	11	37,000	42,257

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing,* 10th Edition, May 1990

TABLE 162

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY TYPE OF PRODUCT MANUFACTURED, 1990

TYPE OF PRODUCT MANUFACTURED	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Aerospace And Aircraft	28	$40,190	$40,174	28	$41,199	$41,791
Apparel/Textile Products/ Textile Mill Products	105	46,260	47,788	105	46,260	47,899
Business Equipment	14	36,797	35,343	14	36,797	35,343
Electrical/Electronics/Aerospace/Aircraft Products	108	44,520	45,359	108	45,595	47,174
Fabicated Metal Products	129	39,100	40,468	129	40,000	41,246
Food & Beverage Products	10	39,250	38,596	10	42,195	40,687
Furniture & Wood Products	54	28,000	29,867	54	28,935	30,796
Paper Products/Printing/Publishing	9	40,000	40,236	9	43,000	41,624
Primary Metal Products (All)	109	41,400	41,934	109	42,000	46,874
Primary Metal Products (Ferrous)	39	41,400	40,983	39	41,400	45,738
Primary Metal Products (Non-Ferrous)	42	42,000	42,464	42	45,141	47,506
Printing and Publishing	12	37,689	38,408	12	37,689	38,408
Rubber and Plastic Products	49	36,140	37,552	49	37,000	38,964

TABLE 163

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY EDUCATION LEVEL, 1990

EDUCATION LEVEL	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Graduate Degree	57	$48,240	$49,364	57	$50,473	$52,658
B. S. in Engineering	275	40,000	40,348	275	41,400	42,485
Bachelor Degree (Non-Engineering)	61	38,750	38,879	61	40,000	40,642
A. A. (Two Year) Degree	70	36,619	36,446	70	37,365	37,603
Some College (No Degree)	76	36,239	37,868	76	38,000	39,037
No College	66	37,500	37,197	66	37,990	38,527

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing,* 10th Edition, May 1990

TABLE 164

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY STATE, 1990

STATE	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Alabama	6	$34,740	$32,000	6	$34,740	$32,100
California	28	40,482	39,788	28	40,482	40,956
Colorado	10	39,000	39,886	10	39,000	39,886
Connecticut	28	38,890	38,752	28	38,059	41,108
Florida	13	43,536	42,307	13	43,536	42,384
Georgia	7	41,100	41,058	7	41,000	41,987
Illinois	50	36,737	37,001	50	36,737	37,596
Indiana	58	41,756	42,090	58	44,782	46,121
Massachusetts	16	46,800	48,793	16	47,260	49,249
Michigan	83	43,980	44,610	83	45,180	45,732
North Carolina	40	34,989	36,254	40	34,994	37,315
New Jersey	8	49,461	50,728	8	51,211	56,790
New York	34	36,787	38,197	34	38,006	39,616
Ohio	78	40,000	39,045	78	41,191	40,044
Oklahoma	10	42,825	41,525	10	42,825	41,525
Oregon	6	49,800	47,533	6	70,218	64,425
Pennsylvania	57	41,000	41,682	57	41,511	43,505
South Carolina	91	48,060	49,392	91	48,060	49,392
Tennessee	13	38,500	37,050	13	38,500	37,466
Texas	9	39,000	41,545	9	42,500	45,222
Virginia	20	28,509	29,825	20	28,509	29,825
Washington	24	38,700	39,193	24	42,155	45,231
Wisconsin	20	36,000	37,350	20	36,000	37,382

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing,* 10th Edition, May 1990

TABLE 165

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY METROPOLITAN AREA, 1990

METROPOLITAN AREA	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Boston (MA) & Vicinity	15	$47,100	$48,446	15	$47,100	$48,566
Buffalo (NY) & Vicinity	17	36,500	36,458	17	38,000	37,890
Chicago (IL) & Vicinity	46	36,737	36,828	46	36,737	37,158
Cincinnati (OH) & Vicinity	5	42,000	41,460	5	42,500	42,460
Cleveland (OH) & Vicinity	6	40,250	43,142	6	42,000	44,965
Columbus (OH) & Vicinity	11	43,420	42,558	11	43,420	42,558
Dallas/Ft. Worth (TX) & Vicinity	5	39,000	40,930	5	42,900	43,550
Dayton (OH) & Vicinity	40	38,279	36,730	40	38,279	37,900
Denver/Colorado Springs (CO) & Vicinity	10	39,886	39,000	10	39,000	39,886
Detroit (MI) & Vicinity	99	43,080	43,340	99	44,060	44,276
Greensboro/Winston-Salem/Highpoint (NC) & Vicinity	27	34,989	33,206	27	34,989	34,351
Hartford (CT) & Vicinity	28	36,890	39,020	28	40,059	41,590
Indianapolis (IN) & Vicinity	32	45,650	46,622	32	51,007	52,413
Los Angeles/San Diego (CA) & Vicinity	22	42,300	41,656	22	43,062	42,960
Milwaukee (WI) & Vicinity	11	39,500	38,628	11	39,500	38,628
Minneapolis/St Paul (MN/WI) & Vicinity	9	39,800	37,197	9	42,000	39,243
Nashville (TN) & Vicinity	9	38,880	41,184	9	38,880	41,184
New York (NY/NJ) & Vicinity	9	55,000	51,244	9	59,000	57,894
Philadelphia (PA/NJ) & Vicinity	21	42,484	41,857	21	45,200	44,718
Pittsburgh (PA) & Vicinity	5	40,000	40,810	5	40,000	41,110
Portland (OR) & Vicinity	17	38,700	40,379	17	64,200	54,768
Rochester (NY) & Vicinity	12	37,500	38,400	12	37,814	39,447
St. Louis (MO/IL) & Vicinity	19	40,000	41,930	19	42,636	47,085
Seattle/Everett (WA) & Vicinity	11	39,432	39,672	11	39,707	39,821
Tulsa (OK) & Vicinity	9	43,000	42,083	9	43,000	42,083

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing,* 10th Edition, May 1990

TABLE 166

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY GEOGRAPHIC REGION, 1990

REGION	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Northeastern States	147	$40,000	$41,430	147	$41,080	$43,403
Southern States	201	43,020	42,233	201	43,197	42,538
Midwestern States	289	40,600	40,783	289	41,400	42,289
North Central States	34	39,250	38,676	34	40,803	41,830
Southwestern States	23	39,000	39,953	23	42,500	41,761
Mountain States	12	37,020	37,438	12	37,020	37,438
Pacific States	58	39,998	40,343	58	41,800	45,153

TABLE 167

NUMBER AND TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF SELECTED MANAGERIAL PERSONNEL* EMPLOYED IN MANUFACTURING BY OCCUPATIONAL TITLE, 1990

OCCUPATIONAL TITLE	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Vice President-Manufacturing/ Production Engineering	32	$70,100	$77,976	32	$84,000	$88,276
Design Manager	44	47,944	49,386	44	49,544	51,876
Chief Manufacturing/Production Engineer	57	48,000	46,641	57	48,200	49,143
Chief Tool Engineer	12	41,500	43,295	12	41,500	44,015
Engineering Department Manager/Superintendent	64	52,142	54,396	64	54,824	59,783
Quality Control Manager	104	39,563	41,021	104	39,813	43,860
Research & Development Manager	40	63,100	59,390	40	64,920	64,596
Product Designer	44	30,910	32,115	44	32,076	32,906
Production Planner	97	31,160	32,317	97	31,500	33,119
Tool Designer	23	26,580	29,123	23	27,909	29,443
Cost Estimator	72	34,100	33,135	72	34,392	33,637
Chief Personnel/Industrial Relations Executive	47	50,000	59,832	47	53,778	70,464

*Excludes Foreman & General Foreman

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing,* 10th Edition, May 1990

TABLE 168

NUMBER TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY TYPE OF ENGINEER, 1990

TYPE OF ENGINEER	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Industrial	17	$39,956	$39,768	78	$41,750	$40,296
Manufacturing	67	40,030	40,071	67	41,184	41,373
Materials	15	44,500	43,712	15	45,000	45,644
Mechanical	108	41,004	41,283	108	41,974	42,768
Plant	115	42,500	43,404	115	43,380	45,504
Pollution Control	10	47,490	47,491	10	49,565	51,043
Process	78	35,460	36,515	78	36,552	37,401
Production	11	31,200	32,831	11	31,200	34,589
Quality Control	66	35,140	36,759	66	36,000	38,301
Research & Development	76	46,695	47,488	76	48,370	50,295
Safety	17	39,432	41,656	17	39,707	42,179
Sales	117	40,800	41,442	117	41,080	43,157

SOURCE. Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey, 1991,* UH 0185-9.

TABLE 169

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED, 1990

HIGHEST DEGREE EARNED	Number Reported	Median Income
Ph. D	790	$70,000
MSEE	1,051	60,400
MA/MS/MBA	439	60,000
BSET/BET	127	43,000
BSEE	1,791	52,500
Other BS	349	54,500
BA	67	60,000
Two Year Degree	77	49,000
Other	40	54,400

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey, 1991,* UH 0185-9.

TABLE 170

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY AGE, 1990

INDUSTRY OR SERVICE OF EMPLOYER	Number Reported	Median Income
Aerospace	584	$60,000
Automotive	68	50,100
Communications	505	62,000
Computers	517	60,000
Consulting	295	60,000
Defense (except Aerospace)	574	57,000
Education	301	58,900
Electrical/Electronic Services	90	50,000
Electrical/Electronic Manufacturing	502	60,000
Medical	107	50,000
Metals	28	51,000
Petroleum/Chemical	90	60,000
Transportation	46	54,500
Utilities	557	55,000
Other Service or Manfacturing Industry	435	57,100

Source: Electronics Engineers, Inc. , *IEEE U.S. Menbership Salary and Fringe Benefits Survey, 1991*, UH0185-9.

TABLE 171

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY INDUSTRY OR SERVICE OF EMPLOYER, 1990

AGE	Number Reported	Median Income
Under 24 Years	152	$32,700
25-29 Years	638	40,000
30-34 Years	841	50,000
35-39 Years	764	58,000
40-44 Years	666	65,000
45-49 Years	597	69,000
50-54 Years	445	70,000
55-59 Years	329	70,000
60-64 Years	245	70,000
Over 64 Years	99	61,000

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey. 1991, UH0185-9.*

TABLE 172

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY YEARS OF PROFESSIONAL & MANAGERIAL EXPERIENCE, 1990

YEARS OF EXPERIENCE	NUMBER REPORTED		MEDIAN INCOME	
	Men	Women	MEN	WOMEN
Under 3 Years	318	41	$33,700	$35,000
3-4 Years	292	30	40,000	34,400
5-6 Years	342	44	44,000	42,300
7-9 Years	458	45	50,000	49,500
10-14 Years	769	37	58,000	52,000
15-19 Years	597	21	64,000	58,000
20-24 Years	588	12	70,000	
25-29 Years	474	5	70,000	
30-34 Years	377	3	72,000	
35-39 Years	167	0	70,000	
40-44 Years	124	0	69,300	
45 and More	28	1	60,500	

NOTE: Blanks indicate too few respondents for data to be meaningful.

TABLE 173

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE OF EXPERIENCE AND SEX BY YEARS 1990,

YEARS OF EXPERIENCE	NUMBER REPORTED	MEDIAN INCOME
Under 2 Years	194	$32,000
2 Years	165	35,100
3-4 Years	326	39,000
5-6 Years	388	44,000
7-9 Years	509	50,000
10-14 Years	812	58,000
15-19 Years	624	63,200
20-24 Years	605	70,000
25-29 Years	485	70,000
30-34 Years	381	72,000
35-39 Years	168	69,500
40-44 Years	128	69,800
45 and More	29	60,000

NOTE: Blanks indicate too few respondents for data to be meaningful.

SOURCE: Institute of Electrial and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey, 1991*, UH0185-9.

TABLE 174

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY AREA OF TECHNICAL COMPETENCE, 1990

PRIMARY AREA OF TECHNICAL COMPETENCE	Number Reported	Median Income
Acoustics, Speech & Signal Processing	101	$62,000
Aerospace & Electronic Systems	169	62,600
Antennas & Propagation	73	60,000
Circuits & Systems	264	50,100
Communications	428	60,000
Components, Hybrids & Manufacturing Technolgy	77	60,000
Computer Hardware	183	56,000
Computer Software	522	55,900
Conputer Hardware & Software	384	56,000
Control Systems	186	54,000
Education	29	62,000
Electromagnetic Compatibility	40	59,300
Electron Devices	108	65,000
Engineering Management	239	69,700
Engineering in Medicine & Biology	52	50,800
Industrial Electronics	41	48,600
Industry Applications	152	54,700
Instrumentation & Measurement	96	60,900
Laser and Electro-Optics	65	62,500
Microwave Theory & Techniques	79	62,000
Power ELectronics	32	55,200
Power Engineering	629	55,100
Reliability	31	53,000
Robotics and Automation	35	59,600
Solid State Circuits	33	64,500
Systems, Man and Cybernetics	28	63,500

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey. 1991,* UH0185-9.

TABLE 175

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY LEVEL OF PROFESSIONAL RESPONSIBILITY, 1990

PROFESSIONAL RESPONSIBILITY LEVEL	Number Reported	Median Income
Engineer 1 (Equivalent To GS-5)	75	$31,200
Engineer 2 (Equivalent To GS-7)	194	34,000
Engineer 3 (Equivalent To GS-9 or Academic Instructor)	349	40,000
Engineer 4 (Equivalent To GS-11 or Assistant Professor)	841	48,000
Engineer 5 (Equivalent To GS-12 or Associate Professor)	847	55,000
Engineer 6 (Equivalent To GS-13 or Full Professor)	983	64,000
Engineer 7 (Equivalent To GS-14 or Distinguished Professor or Academic Department Head)	588	70,000
Engineer 8 (Equivalent To GS-15 or Academic Department Head or Dean)	426	80,000
Engineer 9 (Greater than GS-15 or Academic Dean or Higher)	149	100,000
Not Working as an Engineer	158	70,000

TABLE 176

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME BY GEOGRAPHIC REGION, 1990

GEOGRAPHIC REGION	Number Reported	Median Income
Northeast	955	$63,000
East	775	59,500
Southeast	603	52,300
Central	511	51,800
Southwest	588	52,900
West	1,143	61,000

SOURCE: Institute of Electrical and Electronics Engineers, Inc., IEEE U. S. Membership Salary and Fringe Benefit Survey, 1991, UH0185-9.

TOTAL 177

NUMBER AND MEDIAN ANNUAL SALARIES OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY SELECTED METROPOLITAN AREAS, 1991

METROPOLITAN AREA	NUMBER REPORTED	MEDIAN SALARY	METROPOLITAN AREA	NUMBER REPORTED	MEDIAN SALARY
Albany-Schenectady-Troy, NY	29	$70,000	Melbourne-Titusville-Palm Bay, FL	25	$59,966
Albuquerque, NM	29	62,000	Middlesex-Somerset-Hunterdon, NJ	27	67,000
Allentown-Bethlehem, PA-NJ	29	58,000	Milwaukee, WI	33	48,000
Anaheim-Santa Ana, CA	56	72,302	Minneapolis-St. Paul, MN-WI	61	52,500
Atlanta, GA	73	55,300	Monmouth-Ocean,NJ	67	62,187
Austin, TX	49	53,800	Nassau-Suffolk, NY	66	63,000
Baltimore, MD	90	59,350	New York, NY	111	65,000
Bergen-Passaic, NY	26	64,500	Newark, NJ	63	69,000
Boston, MA	173	66,000	Oakland, CA	61	67,000
Charlotte-Gastonia-Rock Hill,NC-SC	21	50,000	Oxnard-Ventura, CA	28	63,000
Chicago, IL	94	58,818	Philadelphia, PA-NJ	119	60,000
Cleveland, OH	32	58,000	Phoenix, AZ	67	57,000
Columbus, OH	34	58,750	Pittsburgh, PA	60	56,000
Dallas, TX	93	52,000	Portland, OR	37	57,000
Dayton,-Springfield, OH	36	52,100	Raleigh-Durham, NC	53	55,000
Denver, CO	55	53,000	Rochester, NY	29	58,000
Detroit, MI	45	55,200	San Diego, CA	66	63,600
Houston, TX	83	55,000	San Francisco, CA	58	69,500
Huntsville, AL	48	54,550	San Jose, CA	231	67,500
Indianapolis, IN	25	48,000	Seattle, WA	64	51,000
Kansas City, KS	23	55,000	St. Louis MO-IL	52	50,850
Los Angeles-Long Beach, CA	179	64,000	Washington, DC-MD-VA	247	62,700
Lowell, MA-NH	33	58,000			

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey, 1991,* UH 0185-9.

TABLE 178

NUMBER AND MEDIAN ANNUAL SALARY OF IEEE ENGINEERS EMPLOYED FULL-TIME BY SELECTED STATE, 1991

SELECTED STATE	Number Reported	Median Salary
California	71	$53,000
Colorado	46	55,000
Connecticut	76	54,563
Florida	115	52,000
Illinois	30	49,082
Indiana	31	51,000
Massachusetts	40	55,000
Michigan	45	48,000
New York	68	52,000
Ohio	39	52,600
Pennsylvania	33	48,900
Tennessee	27	51,000
Texas	64	50,000
Virginia	48	48,500
Wisconsin	31	54,000

TABLE 179

NUMBER AND MEDIAN ANNUAL SALARIES OF IEEE ENGINEERS EMPLOYED FULL-TIME BY COMPANY SIZE 1989 AND 1991

EMPLOYEES IN COMPANY	Number Reported	Median Salary 1989	Median Salary 1990
1 - 10	137	$52,000	$60,000
11 - 50	222	50,100	56,000
51 - 500	679	50,000	56,500
501 - 10,000	1,477	53,000	60,000
10,000 or More	1,496	54,100	60,000
Federal/State Gov't	382	48,000	53,700

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey. 1991, UH0185-9.*

TABLE 180

NUMBER AND MEDIAN ANNUAL SALARIES OF IEEE ENGINEERS EMPLOYED FULL-TIME BY SECTOR OF EMPLOYER, 1989 AND 1991

SECTOR OF EMPLOYER	Number Reported	Median Salary 1991	Median Salary 1989
Private Industry (Defense)	934	$61,900	$55,200
Private Industry (Other)	1,822	59,000	52,000
Utilities	595	56,100	50,000
Federal Government	422	55,000	48,700
State or Local Government	53	54,000	49,000
Self-Employed	38	80,000	69,000
Educational Institution	287	59,100	52,000
Nonprofit Institution	109	67,000	60,000
Other	79	60,000	53,800

TABLE 181

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY ETHNIC BACKGROUND, 1990

ETHNIC BACKGROUND	Number Reported	Median Income
White (not Hispanic Origin)	4,238	$58,500
Black (not Hispanic Origin)	47	46,500
Hispanic	68	47,500
Asian / Pacific Islander	354	57,000
Other	48	60,000

SALARIES OF TECHNICIANS

Physical science technicians employed in research and development receive higher median salaries than do technicians in any other broad discipline, according to the fifth annual survey of **COMPENSATION AND BENEFITS IN RESEARCH AND DEVELOPMENT** by **Abbott, Langer & Associates.** Physical science technicians had a median annual salary of $23,830, compared to $22,564 for engineering technicians and $23,000 for life science technicians. Within the engineering technician disciplines, electrical/electronics technicians reported the highest median annual salaries - $27,863 and engineering technology technicians the lowest - $20,402. Within the physical science technicians group, computer science technicians reported the highest median salary - $26,000, while those technicians working in astronomy earned the least - $14,000 (Table 182).

Level of education affects salaries of technicians as shown in Table 183. Median salaries ranged from a high of $25,140 for those with a master's degree to a low of $22,531 for those with no college. As expected, salaries of technicians increased with years of experience. those technicians with less than one year of experience earned $15,600 compared to technicians with 25-29 years of experience who report median salaries of $36,370 (Table 184).

Geographically, technicians working in the Midwestern States report the highest median salary - $26,540, while those working in the Southwestern states report the lowest salaries - $20,402 (Table 185). Those technicians working in New Jersey earn the highest salaries - $33,881, followed surprisingly by those working in South Dakota at $30,455. Technicians working in North Dakota reported the lowest salary - $16,000 (Table 186). Salaries for technicians by selected metropolitan area are shown in Table 187.

Technicians employed in manufacturing organizations report higher median salaries ($23,960) than those employed in non-manufacturing organizations ($10,000) - Table 188. By work function, technicians employed in pure research reported the highest salaries - $22,563, while those working in applied research earned the least - $19,000 (Table 189).

In contrast to all technicians, engineering technicians reported the higehst median salary working in non-manufacturing organizations - $27,285 (Table 190), working in applied research (Table 191), and working in the Pacific States (Table 191). Salaries of engineering technicians by years of experience and level of education are shown in Tables 193 and 194.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991*

TABLE 182

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY DISCIPLINE, 1990

DISCIPLINE	NUMBER	SALARY	
		Median	Mean
ALL ENGINEERING	**292**	**$22,564**	**$24,987**
Chemical Engineering	22	22,444	22,680
Electrical / Electronics Eng	80	27,863	28,519
Engineering Technology	119	20,402	22,412
Mechanical Engineering	43	23,400	26,180
ALL LIFE SCIENCES	**283**	**23,000**	**22,725**
Agriculture	30	17,389	17,987
Biochemistry	27	24,107	24,455
Biology	108	21,000	22,255
ALL PHYSICAL SCIENCES	**144**	**23,830**	**24,658**
Astronomy	13	14,000	15,670
Chemistry	95	24,500	25,769
Earth Sciences	22	21,017	26,796
Physics	5	22,680	24,556
Computer Science	24	26,000	26,911
All Technicians	1,118	22,054	23,093

TABLE 183

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY LEVEL OF EDUCATION, 1990

LEVEL OF EDUCATION	NUMBER	SALARY	
		Median	Mean
No College	136	$22,531	$23,086
Some College, No Degree	124	24,000	24,393
A.A. (2 - Year) Degree	275	22,564	23,923
Bachelor's	296	22,660	24,297
Master's	47	25,140	27,740

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991*

TABLE 184

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY YEARS OF EXPERIENCE, 1990

YEARS OF EXPERIENCE	NUMBER	SALARY	
		Median	Mean
Under One Year	31	$15,600	$15,685
One or Two Years	195	22,246	21,629
Three or Four Years	169	24,000	24,004
Five - Nine Years	291	22,564	23,919
10 - 14 Years	72	24,796	25,403
15 - 19 Years	57	30,000	29,720
20 - 24 Years	25	30,000	30,592
25 - 29 Years	12	38,370	37,476
30 Years or More	20	32,700	35,749

TABLE 185

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY GEOGRAPHIC REGION, 1990

GEOGRAPHIC REGION	NUMBER	SALARY	
		Median	Mean
Northeastern States	582	$21,930	$22,339
Southern States	52	21,800	22,902
Midwestern States	135	26,540	24,930
North Central States	57	23,920	24,926
Southwestern States	192	20,402	22,365
Mountain States	82	22,000	21,801
Pacific States	81	24,960	26,854

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991*

TABLE 186

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY SELECTED STATES, 1990

STATE	NUMBER	SALARY	
		Median	Mean
Arizona	13	$20,062	$20,722
California	73	25,248	27,193
Colorado	36	24,435	24,634
Connecticut	296	18,219	20,238
Florida	10	19,000	19,291
Georgia	8	20,195	22,386
Illinois	34	24,950	26,006
Indiana	7	28,000	30,009
Iowa	6	23,866	23,405
Massachusetts	78	24,000	25,712
Michigan	50	29,328	28,084
Minnesota	20	23,462	25,522
Nevada	9	25,000	24,427
New Jersey	13	33,771	32,510
New York	30	19,000	21,656
North Carolina	11	17,000	18,665
North Dakota	5	16,000	16,800
Ohio	16	19,083	20,918
Oklahoma	9	24,960	24,181
Pennsylvania	159	22,988	23,737
South Dakota	20	30,455	29,391
Tennessee	7	26,250	27,764
Texas	183	20,402	22,276
Utah	21	16,667	16,632
Virginia	7	22,038	28,698
Washington	7	24,000	24,014
Wisconsin	28	18,000	19,013

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991*

TABLE 187

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY METROPOLITAN AREA, 1990

METROPOLITAN AREA	Number	SALARY	
		Median	Mean
Atlanta (GA) & Vicinity	8	$20,195	$22,386
Boston (MA) & Vicinity	78	24,000	25,712
Chicago (IL) & Vicinity	33	26,540	26,963
Dallas/Ft. Worth (TX) & Vicinity	5	12,000	15,400
Dayton (OH) & Vicinity	14	19,083	20,332
Denver/Colorado Springs (CO) & Vicinity	33	24,542	24,540
Detroit (MI) & Vicinity	7	26,000	23,669
Greensboro/Winston-Salem/Highpoint (NC) & Vicinity	9	17,550	18,592
Hartford (CT) & Vicinity	270	18,219	19,320
Houston (TX) & Vicinity	42	22,680	27,593
Los Angeles/San Diego (CA) & Vicinity	27	23,920	23,850
Milwaukee (WI) & Vicinity	5	18,350	18,900
Minneapolis/St Paul (MN/WI) & Vicinity	16	26,630	28,410
Nashville (TN) & Vicinity	7	26,250	27,764
New York City (NY/NJ) & Vicinity	39	28,380	30,681
Orlando (FL) & Vicinity	7	20,000	19,143
Philadelphia (PA/NJ) & Vicinity	91	23,790	24,198
Pittsburgh (PA) & Vicinity	61	22,164	23,714
Rochester (NY) & Vicinity	43	25,872	25,381
Salt Lake City/Ogden (UT) & Vicinity	21	16,667	16,632
San Antonio (TX) & Vicinity	102	20,402	21,453
San Francisco/Oakland (CA) & Vicinity	40	28,500	30,372
San Jose (CA) & Vicinity	5	25,200	25,756
Seattle/Everett (WA) & Vicinity	7	24,000	24,014
Tulsa (OK) & Vicinity	9	24,960	24,181

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991*

TABLE 188

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY TYPE OF EMPLOYER, 1990

TYPE OF EMPLOYER	NUMBER	SALARY	
		Median	Mean
ALL MFG.ORGANIZATIONS	**490**	**$23,960**	**$24,906**
Aerospace / Aircraft / Electrical / Electronics Manufacturers	62	26,000	26,536
Chemical / Pharmaceutical / Plastics / Rubber Mfg.	188	26,754	26,562
Fabricated Metal Products Mfg.	16	28,500	27,698
Food, Beverage & Tobacco Products Manufacturers	23	23,160	23,183
Medical & Scientific Equipment Manufacturers	36	26,436	26,128
ALL NON-MANUFACTURING ORGANIZATIONS	**696**	**20,000**	**21,831**
Educational Institutions	351	18,219	19,896
Contract Research Centers (for profit)	21	24,000	27,821
Contract Research Centers (non-profit)	131	24,000	26,267

TABLE 189

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY WORK FUNCTION, 1990

WORK FUNCTION	Number	SALARY	
		Median	Mean
Pure Research	129	$22,563	$24,595
Applied Research	121	19,000	22,365
Development	267	21,216	23,416
Research & Development	651	22,054	22,742

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991*

TABLE 190

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING TECHNICIANS BY TYPE OF EMPLOYER, 1990

TYPE OF EMPLOYER	Number	SALARY	
		Median	Mean
All Manufacturing Organizations	**232**	**$22,000**	**$23,862**
Aerospace/Aircraft/ Electrical/Electronics Manufacturers	51	26,000	26,819
Chemical/Pharmaceutical/Plastics/ Rubber Mfg.	11	22,440	23,169
Fabricated Metal Products Mfg.	16	28,500	27,698
Medical & Scientific Equipment Mfg.	22	23,494	25,640
All Non-Mfg. Org.	**60**	**27,285**	**29,337**
Educational Institutions	13	27,555	28,841
Contract Research Centers (for-profit)	14	24,000	27,143
Contract Research Centers (nonprofit)	17	34,602	35,640

TABLE 191

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING TECHNICIANS BY WORK FUNCTION, 1990

WORK FUNCTION	Number	SALARY	
		Median	Mean
Pure Research	7	$30,000	$34,803
Applied Research	19	31,700	29,816
Development	181	20,402	23,292
Research & Development	76	25,573	26,729

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1991*

TABLE 192

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING TECHNICIANS BY GEOGRAPHIC REGION, 1990

GEOGRAPHIC REGION	Number	SALARY	
		Median	Mean
Northeastern States	43	$24,000	$26,875
Southern States	10	26,625	25,983
Midwestern States	32	27,750	27,905
North Central States	35	27,000	27,222
Southwestern States	133	20,402	22,370
Mountain States	22	23,202	24,741
Pacific States	10	29,810	31,595

TABLE 193

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING TECHNICIANS BY YEARS OF EXPERIENCE, 1990

YEARS OF EXPERIENCE	Number	SALARY	
		Median	Mean
Under One Year	7	$20,000	$19,850
One or Two Years	28	22,000	21,950
Three or Four Years	38	25,574	25,657
Five to Nine Years	150	20,402	23,499
10 - 14 Years	22	29,550	28,846
15-19 Years	10	36,996	36,270
20 - 24 Years	10	30,874	34,748

TABLE 194

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING TECHNICIANS BY LEVEL OF EDUCATION, 1990

LEVEL OF EDUCATION	Number	SALARY	
		Median	Mean
No College	32	$23,960	$24,153
Some College, No Degree	46	26,000	26,326
A.A. (2-Year) Degree	167	20,402	23,397
Bachelor's	34	26,505	28,856
Master's	7	35,496	34,968

FEDERAL SALARIES

On January 1, 1991, about 1.5 million federal white-collar workers received a 4.1% salary increase. The new federal salary scale raises salaries from a base of $11,015 for the beginning step of GS-1 to $97,317, for GS-18. Federal workers in the Senior Executive Service earn salaries ranging from $87,000 to $108,300, while those in the Executive Level Series received salaries ranging from $101,300 to $138,900. Table 195 presents the white-collar salary schedule effective as of January 1, 1991. Some scientists and most engineers earn higher salaries than others in the same grade because they are in "special rate" categories, based on hiring difficulty. Special rates can cover a whole occupation, or be limited to specific jobs and grades in particular locations. Finally, in January 1991, the President implemented the first stage in geographic reform of civil service by providing an additional 8% cost of living raise to federal workers in Los Angeles, San Francisco, and New York City.

Table 196 presents the number and average salary of federal white-collar workers by sex and by minority/non-minority status in selected occupations for all geographical areas of the United States as of September 30, 1990. Women continue to have lower average salaries in almost every occupational series. In the engineering and architecture job series, women's salaries as a percentage of men's ranged from a high of 88.3 in architecture and electrical engineering, to a low of 69.4 in agricultural engineering. However, there were only 18 women employed as agricultural engineers as of September 30, 1991. In the engineering categories with significant numbers of women, their salaries ranged between 75% and 85% of salaries paid to men.

In the physical sciences, the highest average salary was reported in the astronomy and space science occupations - $58,463, where women earned 87.2% of what men did. As expected, the lowest salaries were reported by technicians in this occupational series. In the life sciences, the highest salaries were reported by workers in agricultural extension - $64,579.

In the health sciences, highest salaries were reported by dental officers - $55,558. Although women dominated many of the health science occupations, only in nursing do women report slightly higher average salaries.

Table 196 also shows that overall, although minorities report lower salaries than do all men in the same job category, there is a wider salary disparity between salaries paid to men and women than to those paid to minorities and majorities.

The **U. S. Department of Labor** in its **WHITE-COLLAR PAY: PRIVATE GOODS-PRODUCING INDUSTRIES** survey, previously called the **NATIONAL SURVEY OF PROFESSIONAL, ADMINISTRATIVE, TECHNICAL AND CLERICAL PAY** collects data on salaries paid in private industry. Table 197 compares that data for selected occupations and levels of responsibility with salaries paid to federal workers as of March 1990.

Salaries of doctoral scientists and engineers employed by the federal government are compared for 1985 through 1989 in Table 198. These data are published by the National Science Foundation in its CHARACTERISTICS OF DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES, 1989. In 1989, doctoral scientists and engineers working in the federal government had a median salary of $53,900. Highest median salary of federal Ph.D. scientists and engineers in 1989 was reported by economists at $61,000.

The **American Chemical Society** in its **SALARIES 1990 - An Analysis of the American Chemical Society's 1990 Survey of Salaries and Employment** reports salaries of chemists employed in the federal government. Bachelor's level chemists had a median salary of $37,872, compared to $43,000 for master's level chemists and $55,000 for Ph.D.s in chemistry. As shown in Table 199, the more experienced the chemist, the higher the salary. As shown for industrial chemists, those governmental chemists working in management of R&D, regardless of degree level, report the highest median salaries (Table 200), and those with more subordinates also earn higher salaries (Table 201).

SOURCE: U.S. Office of Personnel Management.

TABLE 195

ANNUAL SALARIES OF FEDERAL WORKERS UNDER THE GENERAL SCHEDULE BY GRADE AND STEP LEVELS, JANUARY 1, 1991

GRADE	STEP 1	2	3	4	5	6	7	8	9	10
GS-1	$11,015	$11,383	$11,749	$12,114	$12,482	$12,697	$13,058	$13,422	$13,439	$13,776
GS-2	12,385	12,679	13,090	13,439	13,590	13,990	14,390	14,790	15,190	15,590
GS-3	13,515	13,966	14,417	14,868	15,319	15,770	16,221	16,672	17,123	17,574
GS-4	15,117	15,677	16,183	16,689	17,195	17,701	18,207	18,713	19,219	19,725
GS-5	16,973	17,539	18,105	18,671	19,237	19,803	20,369	20,935	21,501	22,067
GS-6	18,919	19,550	20,181	20,812	21,443	22,074	22,705	23,336	23,967	24,598
GS-7	21,023	21,724	22,425	23,126	23,827	24,528	25,229	25,930	26,631	27,332
GS-8	23,284	24,060	24,836	25,612	26,388	27,164	27,940	28,716	29,492	30,268
GS-9	25,717	26,574	27,431	28,288	29,145	30,002	30,859	31,716	32,573	33,430
GS-10	28,322	29,266	30,210	31,154	32,098	33,042	33,986	34,930	35,874	36,818
GS-11	31,116	32,153	33,190	34,227	35,264	36,301	37,338	38,375	39,412	40,449
GS-12	37,294	38,537	39,780	41,023	42,266	43,509	44,752	45,995	47,238	48,481
GS-13	44,348	45,826	47,304	48,782	50,260	51,738	53,216	54,694	56,172	57,650
GS-14	52,406	54,153	55,900	57,647	59,394	61,141	62,888	64,635	66,382	68,129
GS-15	61,643	63,698	65,753	67,808	69,863	71,918	73,973	76,028	78,083	80,138
GS-16	72,298	74,708	77,118	79,528	81,396	82,697	85,060	87,424	89,787	
GS-17	83,032	85,800	88,568	91,336	94,104					
GS-18	97,317									

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 196

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1990

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
General Engineering	21,070	$53,264	19,605	$54,036	1,465	$43,017	2,702	$47,991
Safety Engineering	581	46,257	532	47,037	49	37,870	106	40,892
Fire Prevention Engineering	148	47,461	138	47,952	10	40,724	20	43,672
Materials Engineering	1,318	47,082	1,110	48,669	208	38,610	160	44,394
Landscape Architecture	664	41,272	506	43,581	158	33,892	28	39,740
Architecture	1,943	43,420	1,694	44,081	249	38,912	479	42,611
Civil Engineering	15,364	45,213	14,099	45,951	1,265	36,986	2,187	42,821
Environmental Engineering	3,404	43,428	2,666	44,978	738	37,826	619	40,057
Mechanical Engineering	13,175	42,906	12,320	43,310	855	37,088	2,133	40,701
Nuclear Engineering	3,623	47,772	3,405	48,255	218	40,168	525	43,169
Electrical Engineering	4,936	43,817	4,530	44,463	406	36,589	1,143	40,981
Computer Engineering	1,584	46,212	1,280	47,289	304	41,689	259	42,483
Electronics Engineering	29,796	45,728	27,620	46,312	2,176	38,316	5,446	40,867
Biomedical Engineering	386	40,978	312	42,666	74	33,884	40	38,162
Aerospace Engineering	9,633	49,136	8,836	49,950	797	40,159	1,027	44,527
Naval Architecture	1,222	48,161	1,137	48,706	85	40,875	192	45,329
Mining Engineering	392	45,818	377	46,301	15	33,695	28	47,168
Petroleum Engineering	431	47,586	398	48,179	33	40,429	42	44,617
Agricultural Engineering	393	43,680	375	44,301	18	30,748	23	36,568
Ceramic Engineering	66	49,838	55	51,418	11	41,936	2	54,418
Chemical Engineering	1,570	44,748	1,280	46,130	290	38,681	269	41,810
Welding Engineering	86	44,414	81	44,756	5	38,874	14	41,535
Industrial Engineering	3,070	41,574	2,627	42,538	443	35,866	468	39,307
General Physical Science	6,573	53,337	5,425	55,839	1,148	41,683	599	48,329

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 196 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1990

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Health Physics	725	$45,790	576	$47,562	149	$38,983	108	$40,483
Physics	3,901	54,191	3,678	54,769	223	44,527	298	50,817
Geophysics	634	48,469	564	49,840	70	37,423	41	46,636
Hydrology	2,575	41,580	2,200	43,160	375	32,331	139	38,501
Chemistry	7,884	44,804	5,865	47,040	2,019	38,307	1,551	40,726
Metallurgy	270	52,426	257	52,754	13	45,935	40	50,565
Astronomy & Space Science	508	58,463	475	58,955	33	51,404	23	59,565
Meteorology	2,520	43,157	2,342	43,727	178	35,656	195	45,538
Geology	2,760	44,954	2,251	46,919	509	36,260	132	40,437
Oceanography	768	47,917	645	49,832	123	37,875	57	43,792
Cartography	4,480	37,511	3,594	38,045	886	35,348	503	38,005
Geodesy	319	42,246	270	43,146	49	37,204	26	41,810
Land Surveying	540	34,963	516	35,359	24	26,437	36	31,378
Food Technology	476	35,499	363	35,820	113	34,470	74	34,875
Textile Technology	100	38,146	47	44,092	53	32,874	14	32,716
Forest Prod. Technology	73	52,641	66	53,876	7	41,004	4	50,068
General Biological Science	7,288	41,270	5,382	43,830	1,906	34,557	900	38,102
Microbiology	2,213	41,799	1,316	45,246	897	36,747	356	38,768
Pharmacology	453	50,720	348	51,815	105	47,112	98	48,901
Agricultural Extension	58	64,579	41	65,823	17	61,579	3	66,926
Ecology	489	41,404	377	43,631	112	33,881	17	40,998
Zoology	118	52,340	98	54,973	20	39,567	6	36,452
Physiology	625	47,000	477	48,558	148	41,957	67	44,178
Entomology	740	46,979	670	48,036	70	36,857	60	41,512

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 196 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1990

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Toxicology	211	$49,742	142	$51,348	69	$46,437	31	$50,267
Botany	269	34,979	157	39,680	112	28,390	15	36,143
Plant Pathology	329	47,866	282	50,026	47	34,955	27	42,724
Plant Physiology	358	47,048	291	49,367	67	36,975	30	40,785
Plant Prot. & Quarantine	1,421	30,830	1,157	31,662	264	27,186	463	28,683
Horticulture	114	38,746	82	42,156	32	30,010	10	38,199
Genetics	357	48,041	284	50,609	73	38,085	30	46,176
Range Conservation	1,235	32,611	1,047	33,735	188	26,349	105	30,985
Soil Conservation	4,863	34,137	4,295	35,118	568	26,726	579	32,777
Forestry	6,331	37,049	5,347	38,599	984	28,630	417	32,553
Soil Science	1,741	37,185	1,565	38,178	176	28,350	150	35,805
Agronomy	328	40,700	318	41,128	10	27,084	23	36,064
Agriculture Management	3,990	33,326	3,449	34,092	541	28,434	414	32,055
General Fish & Wildlife Administration	208	59,831	196	60,120	12	55,114	8	47,248
Fishery Biology	1,687	36,594	1,411	38,193	276	28,417	126	33,918
Wildlife Refuge Management	600	34,705	536	35,630	64	26,976	36	29,265
Wildlife Biology	2,172	33,603	1,655	35,797	517	26,572	137	30,743
Animal Science	133	46,366	115	47,953	18	36,230	8	40,960
Home Economics	48	37,487	6	36,198	42	37,671	10	27,303
General Health Science	3,118	41,723	1,689	44,642	1,429	38,278	495	39,761
Medical Officer	34,893	47,976	27,203	49,028	7,690	44,267	7,291	49,616
Medical Technologist	5,797	30,575	1,774	31,117	4,023	30,336	1,529	30,600
Nurse Anesthelist	494	52,653	222	52,301	272	52,940	62	54,470
Nurse	44,803	35,350	4,109	34,425	40,694	35,443	12,396	35,660

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 196 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1990

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Dietitian & Nutritionist	1,725	$33,023	90	$39,566	1,635	$32,662	380	$33,992
Occupational Therapist	705	33,685	65	33,804	640	33,673	137	33,197
Physical Therapist	650	35,271	191	36,158	459	34,907	115	35,392
Corrective Therapist	520	29,270	350	30,327	170	27,094	154	29,219
Manual Arts Therapist	188	30,061	168	30,327	20	27,823	25	28,875
Recreation/Creative Arts Therapist	753	29,052	364	30,668	389	27,541	123	28,370
Educational Therapist	45	30,360	19	30,546	26	30,224	9	29,577
Pharmacist	4,393	41,438	2,700	42,458	1,693	39,809	985	41,120
Optometrist	260	45,287	198	49,913	62	30,073	29	32,986
Speech Pathology & Audiology	897	37,445	312	44,159	585	33,864	75	33,444
Podiatrist	271	43,985	233	45,873	38	32,459	34	34,204
Dental Officer	1,464	55,558	1,259	58,591	205	37,051	173	46,622
Industrial Hygiene	1,408	38,187	947	40,101	461	34,274	240	36.703
Consumer Safety	1,726	42,068	1,171	45,403	555	35,038	326	37,474
Veterinary Medical Science	2,155	44,299	1,859	45,073	296	39,496	445	43,095
Safety & Occupational Health	4,194	36,933	19,605	54,036	798	32,453	673	34.420
General Education & Training	14,114	28,917	3,410	35,686	10,704	26,801	1,832	26,789
Education & Vocational Training	9,172	35,109	4,301	41,502	4,871	29,479	2,291	32,095
Education Program	485	51,763	228	57,307	257	46,845	184	49.079
School Administration	10	66,492	5	75,781	5	57,204	1	54,904
Education Research	68	61,849	39	64,755	29	57,940	10	56,607
Public Health Education	33	39,988	10	40,571	23	39,734	17	36,804
Secondary Teaching	7	28,158	2	28,825	5	27,891	2	33,994
Education Services	61	30,020	46	31,043	15	26,884	10	30,203

* Not available

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 196 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1990

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Computer Science	2,976	$41,601	2,033	$43,421	943	$37,683	448	$37,911
Computer Specialist	50,519	39,385	31,153	41,815	19,366	35,478		
Operations Research	4,091	49,891	3,232	52,229	859	41,098	458	45,976
Mathematics	2,560	46,206	1,842	48,079	718	41,402	360	42,868
Mathematical Statistician	1,254	45,564	864	48,297	390	39,516	244	43,012
Statistician	2,781	45,457	1,764	48,229	1,017	40,655	480	40,200
Actuary	171	53,690	133	55,419	38	47,637	17	48,150
Archivist	441	40,584	290	42,429	151	37,017	29	38,700
Libraian	2,109	36,665	509	38,231	1,600	36,170	271	35,862
Accounting	12,518	39,582	7,541	42,899	4,977	34,559	3,254	36,635
Auditing	15,317	40,498	10,758	43,161	4,559	34,210	2,796	37,425
General Attorney	22,064	56,821	14,537	59,187	7,527	52,265	2,310	52,473
Patent Attorney	223	65,814	211	66,511	12	53,549	9	62,103
Community Planning	501	46,575	386	48,952	115	38,721	69	42,483
Social Science	4,158	38,943	2,323	41,205	1,835	36,086	1,056	37,031
Economist	5,755	49,814	4,376	52,007	1,379	42,878	598	42,492
Social Work	4,757	35,667	2,222	37,632	2,535	33,945	1,259	35,352
Sociology	103	47,268	51	51,815	52	42,808	4	39,434
Foreign Affairs	3,913	56,571	2,966	59,301	947	48,013	427	49,513
International Relations	109	59,743	79	64,521	30	47,161	13	53,448
Manpower Res. & Analysis	40	53,899	24	56,665	16	49,750	9	51,763
Geography	290	38,652	203	39,904	87	35,733	19	35,593
History	690	42,341	523	44,333	167	36,115	37	37,988
Psychology	4,239	44,221	2,914	47,712	1,325	36,532	335	40,168
General Anthropology	60	49,225	42	51,303	18	44,377	8	43,789
Archeology	952	30,425	606	32,269	346	27,195	52	27,227
Environmental Protection Specialist	3,194	39,785	1,882	41,515	1,312	37,315	420	35,006

SOURCE: U.S. Department of Labor, *White Collar Pay: Private Goods - Producing Industries,* March 1990.

TABLE 197

COMPARISON OF AVERAGE ANNUAL SALARIES IN PRIVATE GOODS - PRODUCING INDUSTRIES WITH SALARY RATES FOR FEDERAL EMPLOYEES UNDER THE GENERAL SCHEDULE, MARCH 1990

OCCUPATION AND LEVEL*	Salaries in Industry	Grade	SALARY RATES UNDER THE GENERAL SCHEDULE										
			1	2	3	4	5	6	7	8	9	10	AVERAGE SALARY**
Computer Programmers II	25,044	GS-5	$16,305	$16,849	$17,393	$17,937	$18,481	$19,025	$19,569	$20,113	$20,657	$21,201	$18,699
Accountants II	23,842												
Chemists II	26,109												
Computer Operators IV	19,839												
Engineers II	31,224												
Engineering Technicians IV	27,134												
Drafters V	28,385												
Registered Nurses I	26,212	GS-7	20,195	20,868	21,541	22,214	22,887	23,560	24,233	24,906	25,579	26,252	23,005
Computer Programmers II	28,962												
Accountants II	28,200												
Chemists II	32,168												
Computer Operators IV	29,029												
Engineers II	35,398												
Engineering Technicians IV	32,698												
Drafters V	34,900												
Registered Nurses II	30,413	GS-9	24,705	25,529	26,353	27,177	28,001	28,825	29,649	30,473	31,297	32,121	27,793
Computer Programmers III	33,780												
Accountants III	35,489												
Attorneys I	38,587												
Chemists III	40,385												
Systems Analysts I	33,833												
Engineers III	41,287												
Engineering Technicians V	37,287												
Registered Nurses III	43,414	GS-11	29,891	30,887	31,883	32,879	33,875	34,871	35,867	36,863	37,859	38,855	33,812
Computer Programmers IV	40,833												
Accountants IV	45,095												
Attorneys II	46,053												
Chemists IV	49,065												
Systems Analysts II	40,203												
Engineers IV	49,365												
Registered Nurses IV	44,513	GS-12	35,825	37,019	38,213	39,407	40,601	41,795	42,989	44,183	45,377	46,571	40,801
Accountants V	56,871												
Attorneys III	59,087												
Chemists V	59,518												
Systems Analysts III	47,958												
Systems Analysts Managers I	52,930												
Engineers V	59,444												
Accountants VI	72,440	GS-13	42,601	44,021	45,441	46,861	48,281	49,701	51,121	52,541	53,961	55,381	49,003
Attorneys IV	78,561												
Chemists VI	72,835												
Systems Analysts IV	78,561												
Systems Analysts Managers II	59,926												
Engineers VI	70,332												
Attorneys V	96,178	GS-14	50,342	52,020	53,698	55,376	57,054	58,732	60,410	62,088	63,766	65,444	58,363
Chemists VII	85,395												
Systems Analysts V	68,811												
Systems Analysts Managers III	71,842												
Engineers VII	80,998												
Attorneys VI	120,967	GS-15	59,216	61,190	63,164	65,138	67,112	69,086	71,060	73,034	75,008	76,982	70,316
Engineers VIII	91,392												
Systems Analysts Managers IV	91,392												

*See Original Survey for definition of levels. **Mean salary of all general schedule employees in each grade as of March 31, 1990.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States,* 1989

TABLE 198

NUMBER AND MEDIAN ANNUAL SALARIES OF CIVILIAN DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED BY THE FEDERAL GOVERNMENT BY FIELD, 1985-1989

FIELD	1985				1987				1989			
	Number	%	Percent of total employed	Median annual salary	Number	%	Percent of total employed	Median annual salary	Number	%	Percent of total employed	Median annual salary
TOTAL	26,337	100.0	6.6	$48,400	27,532	100.0	6.6	$50,700	29,242	100.0	6.5	$53,900
PHYSICAL SCIENTISTS	4,044	15.4	6.0	49,600	4,322	15.7	6.3	50,600	4,602	15.7	6.5	54,400
Chemists	1,752	6.7	4.0	47,400	1,891	6.9	4.3	47,500	2,173	7.4	4.8	51,000
Physicists/Astronomers	2,292	8.7	9.7	51,100	2,431	8.8	9.9	54,200	2,429	8.3	9.9	59,000
MATHEMATICAL SCIENTISTS	853	3.2	5.1	48,100	848	3.1	5.1	50,700	786	2.7	4.5	53,300
Mathematicians	562	2.1	4.0	48,300	586	2.1	4.2	56,400	505	1.7	3.4	54,600
Statisticians	291	1.1	10.4	47,100	262	1.0	9.3	50,200	281	1.0	10.2	47,000
COMPUTER/INFO. SPECIALISTS	692	2.6	4.6	50,500	797	2.9	4.3	56,400	820	2.8	4.1	54,600
ENVIRONMENTAL SCIENTISTS	3,309	12.6	19.1	50,000	3,363	12.2	18.9	52,400	3,264	11.2	16.5	55,900
Earth Scientists	2,384	9.1	18.1	50,200	2,412	8.8	17.8	51,700	2,226	7.6	14.7	55,900
Oceanographers	445	1.7	22.7	50,300	363	1.3	17.8	52,300	453	1.5	18.4	52,800
Atmospheric Scientists	480	1.8	22.6	47,600	588	2.1	26.8	58,200	585	2.0	26.7	59,600
ENGINEERS	3,807	14.5	5.8	50,800	3,606	13.1	5.3	53,800	4,546	15.5	6.1	58,700
LIFE SCIENTISTS	7,962	30.2	7.8	46,600	8,709	31.6	8.1	47,900	9,132	31.2	7.9	50,600
Biological Scientists	4,790	18.2	8.0	45,600	5,132	18.6	8.3	47,300	5,266	18.0	7.8	50,300
Agricultural Scientists	2,055	7.8	13.2	48,200	2,213	8.0	14.0	45,600	2,409	8.2	14.6	50,000
Medical Scientists	1,117	4.2	4.2	48,700	1,364	5.0	4.6	52,400	1,457	5.0	4.5	53,200
PSYCHOLOGISTS	1,049	4.0	2.0	44,100	1,388	5.0	2.5	45,400	1,426	4.9	2.4	50,100
SOCIAL SCIENTISTS	4,621	17.5	7.2	48,200	4,499	16.3	6.8	53,600	4,666	16.0	6.7	57,900
Economists	1,719	6.5	9.6	52,100	1,398	5.1	7.8	56,900	1,530	5.2	8.2	61,000
Soc./Anthropologists	176	0.7	1.4		281	1.0	2.2		170	0.6	1.3	
Other Social Scientists	2,726	10.4	8.2	46,100	2,820	10.2	8.0	53,300	2,966	10.1	7.8	53,800

NOTE: Percents may not add to 100 because of rounding. Median salaries computed for full-time civilians only. Blanks indicate insuficienmt data

SOURCE: American Chemical Society, *Salaries 1990 - An Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 199

MEDIAN AND MEAN SALARIES OF GOVERNMENTAL CHEMISTS* EMPLOYED FULL-TIME BY HIGHEST DEGREE AND YEARS SINCE B. S., 1990

YEARS SINCE B. S.	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
2-4	$25,185	$25,820	$	$	$	$
5-9	30,448	31,512	32,693	32,753	42,000	41,515
10-14	36,000	36,220	37,019	37,025	45,000	46,189
15-19	40,200	40,864	42,989	42,159	48,300	49,885
20-24	43,500	44,651	46,931	46,560	55,000	55,627
25-29	46,931	47,306	48,687	49,404	57,480	58,553
30-34	52,353	49,548	50,000	51,969	62,000	62,094
35-39	46,530	48,212	46,571	49,122	65,444	63,756
> = 40	50,000	51,642	57,700	58,512	65,400	65,311
All Years	37,872	39,243	43,000	43,917	55,000	56,043

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondants

SOURCE: American Chemical Society, *Salaries 1990 - An Analysis of The American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 200

MEDIAN AND MEAN SALARIES OF GOVERNMENTAL CHEMISTS* EMPLOYED FULL-TIME BY WORK FUNCTION AND DEGREE LEVEL, 1990

WORK FUNCTION	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Management R&D	$60,000	$56,284	$ 56,000	$57,537	$ 65,000	$ 64,390
Basic Research	38,650	39,270	40,150	40,725	50,000	51,754
Applied Research	42,000	42,906	45,721	45,220	49,000	49,957
General Management	47,000	46,484	49,708	53,166	53,000	53,345
Production	35,755	35,531	35,000	37,706	36,000	37,401
Health & Safety	36,200	37,013	40,000	41,480	41,628	42,656
Forensics	33,750	34,847	37,674	37,726	36,200	37,147
Chemistry Info. Services					50,411	46,328
Computers					42,945	43,231
Consulting					42,895	45,440
Other	35,000	36,829	42,301	42,970	41,250	43,962

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondants

TABLE 201

MEDIAN AND MEAN SALARIES OF GOVERNMENTAL CHEMISTS* EMPLOYED FULL-TIME BY NUMBER OF SUBORDINATES AND DEGREE LEVEL, 1990

TOTAL SUBORDINATES	BACHELOR'S		MASTER'S		Ph. D	
	Median	Mean	Median	Mean	Median	Mean
NONE	$35,000	$36,260	$39,500	$40,449	$49,000	$50,840
1-2	36,000	36,928	40,000	41,045	51,061	51,788
3-9	38,358	39,430	42,000	43,276	58,000	57,591
10-14	42,867	45,022	51,956	51,832	64,500	63,303
15-29	47,786	48,573	50,500	52,312	65,000	64,833
30-39	58,736	54,931			67,292	64,332
50-99					69,254	68,371
100- or more					76,000	75,817

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondants

FACULTY SALARIES

The only national faculty salary survey that presents data by discipline as well as rank and control is conducted by the **College and University Personnel Association** in conjunction with **Appalachian State University, Boone, North Carolina.** Data are collected separately for faculty employed in public and private institutions. The **1990-91 NATIONAL FACULTY SALARY SURVEY BY DISCIPLINE AND RANK IN STATE COLLEGES AND UNIVERSITIES** (the tenth consecutive edition) presents data on 54 disciplines from 282 state colleges and universities employing 74,763 faculty members. The **1990-91 NATIONAL FACULTY SALARY SURVEY BY DISCIPLINE AND RANK IN PRIVATE COLLEGES AND UNIVERSITIES** presents data on 54 disciplines from 484 private institutions employing 47,264 faculty members.

Overall, the average faculty salary in state colleges and universities was $40,607, up 4.1% over 1989-90. In private institutions, the average faculty salary increased 7.8% from the previous year to $39,683. Engineering faculty topped the pay scale for the sixth consecutive year, earning an average 39% more than the average of faculty members in all other disciplines at private institutions, and 21% more than the average for all others at public ones. Together with engineering professors, faculty members in disciplines such as accounting, business and management, and computer and information science continue to earn higher than average salaries. On the bottom end of the salary scale were allied occupational therapy and home economics - all disciplines with high proportions of women.

The study found that as in past years, faculty salaries in some disciplines have become compressed with pay increases, so that total salaries for some senior professors lag those of faculty members with less seniority. For example, new assistant professors of accounting and new assistant professors of engineering at public institutions earn 31% and 27% more respectively than new assistant professors in all other disciplines. They also earn more than some of their colleagues of the same rank who had been teaching in the field longer.

Faculty members at all ranks except full professors again fared better at public institutions than at private ones. Average faculty salaries by rank and discipline in public and private institutions are reported in **Tables 202** and **203.**

For the first time in a decade, faculty salaries have failed to keep pace with the cost of living. The average salary for professors in all types of institutions is $43,720, up 5.4% from last year's average, compared with an expected 6% increase in the cost of living index for the year ending June 1, according to the **ANNUAL REPORT ON THE ECONOMIC STATUS OF THE PROFESSION** by the **American Association of University Professors.** Salary levels generally increased faster at private independent institutions than at public and church-related schools. Salary increases for continuing faculty averaged 6.8%, thus slightly surpassing the cost of living increase. Average salaries and total compensation for faculty are higher at private independent institutions than public ones for the major research universities (Category I) and the liberal arts colleges (Category II-B), while the reverse is true at two-year institutions (Category III). At the comprehensive universities (Category II-A) salaries are about equal. Average salary and average compensation by academic rank, type of institution and type of affiliation are presented in **Tables 204** and **205.**

Men continue to earn more than women at all levels of the professoriat. The disparity may be due in part to the fact that many women teach at colleges or comprehensive institutions, which pay less than doctorate granting research institutions, and women also tend to work in fields that pay less. The differences tend to be largest for full professors and in research universities (Category I). The average salary for male full professors (excluding Category IV) is $57,080, 11.5% more than the average of $50,530 received by female full professors. At the instructor level, only a 6.7% differential exists between the average salaries paid men and women. The differences are less at public than at private institutions, and at liberal arts colleges than at research universities (**Table 206**).

Faculty salaries vary geographically as shown in **Table 207.** Faculty in major research universities earn more in the New England area, followed closely by the Pacific region, and earn the least in the East and West South Central regions. For the average faculty member, the value of fringe benefits totalled about 24% of salary. Overall, 64% of faculty members have tenure as shown in **Table 208.**

Oklahoma State University in its **1990-91 Faculty salary Survey by Discipline of Institutions Belonging to NASULGC**, reports that professors of law earn the highest average salary - $83,383, followed by professors in computer and information sciences ($70,616). At the low end of the salary scale are professors in fine arts at $50,587. However, professors in fine arts reported the highest percentage increase - 8.0%, **(TABLE 209)**.

The **National Science Foundation** reports in its **CHARACTERISTICS OF DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES: 1989** (unpublished) that among doctoral scientists and engineers employed in educational institutions in 1989, engineers reported the highest median salary - $61,500, while PhD sociologists/anthropologists reported the lowest - $45,900. However, among all doctoral engineers, only 34% were employed in educational institutions, compared with 83% of the oceanographers. **Table 210** compares the median salaries of doctoral scientists and engineers employed in educational institutions from 1985 through 1989. Among doctoral scientists and engineers who are college or university teachers, engineers again report the highest salaries, regardless of rank or length of contract **(Table 211)**.

The **American Chemical Society's SALARIES 1990 ...** found that chemists employed in colleges and universities earn less than those employed in other sectors of the economy. Among academic chemists, those engaged primarily in research report higher salaries than chemists engaged in teaching **(Table 212)**. Salaries of PhD academic chemists by rank and years since bachelor's degree are shown in **Table 213**. Overall, average salaries of PhD chemists are $53,571 at the professor rank, $38,388 for associate professor, and $32,416 for assistant professor.

Table 214 presents salaries of PhD chemists working in educational institutions by work specialty. Median salaries ranged from a high of $65,500 for professors whose specialty is materials science to a low of $43,000 for professors in general chemistry. By type of institution, PhD chemists employed in medical schools reported the highest median salaries regardless of academic rank **(Table 215)**.

As was true in other employment sectors, women PhD chemists employed in academic institutions reported lower salaries than their male colleagues regardless of academic rank. Male chemistry professors on 9-10 month contracts reported a median salary of $64,766, compared to $60,000 for female chemistry professors **(Table 216)**.

Geographically, PhD academic chemists who are full professors earn more in the Pacific region, followed closely by those in New England; and least in the East South Central area. For associate professors, those in the New England region report the highest salaries, followed closely by those in the Pacific region, while those in the East South Central region again report the lowest **(Table 217)**.

The 34nd annual survey of faculty salaries and tenure by the **American Mathematical Society** and the **Mathematical Association of America** is based on usable returns from 841 departments in the mathematical sciences, ranging from doctorate-granting departments in the top research universities to bachelor's institutions. PhD mathematics teachers employed in doctorate-granting departments earn more than those employed in non-doctorate granting departments **(Table 218)**. Additionally, the more prestigious the doctoral-granting department, generally the higher salaries paid the faculty, regardless of rank.

The **American Institute of Physics** in its **1990 SALARIES, SOCIETY MEMBERSHIP SURVEY**, the seventh in a series initiated in 1982, reports that PhD physics professors employed in four-year colleges had a median salary of $46,000 compared to $31,700 for assistant professors **(Table 219)**. However, doctoral physics professors employed in universities had a median of $59,500, while assistant professors earned $36,000 **(Table 220)**.

The annual **1990-91 FACULTY SALARIES IN GRADUATE DEPARTMENTS OF PSYCHOLOGY** conducted by the **American Psychology Association** and the **Council of Graduate Departments of Psychology** reports data submitted by 421 departments and professional schools covering 7,085 full-time faculty who hold the doctorate. The median starting salary, regardless of rank, in doctoral departments of psychology was $32,000, compared with a starting salary of $29,000 for those in master's level departments **(Table 221)**.

With the exception of full professors with at least 12 years of experience and assistant professors with less than three years of experience, psychology faculty in doctoral departments in the Middle-Atlantic states reported the highest salaries regardless of rank or length of experience. Median salaries ranged from a high of $70,394 for full professors with at least 12 years of experience working in the Pacific area to a low of $30,889 for assistant professors working in the West South Central area (**Table 222**). Similar information is presented for full-time faculty in U.S. master's departments of psychology in **Table 223**.

Type of department also affects the salary of academic psychologists as shown in **Table 224**. Median salaries for full professors with at least 12 years of experience ranged from a high of $63,000 in psychology departments to a low of $51,594 in professional schools. **Table 225** presents salaries of faculty in psychology departments by rank, type of department and years in rank for 1988-89. PhD psychologists who are full professors earn more as faculty in medical school psychiatry departments or university business schools, and least in four-year college psychology departments (**Table 226**).

The **American Geological Institute** in its **1990-91 GEOSCIENCE FACULTY SALARY SURVEY** received responses from 82 departments of geology, covering 1,045 faculty. Information from that survey is summarized in **Table 227**. Respondents to the survey indicated that faculty salaries would increase only an average 3.2% in the next academic year.

The median salary for engineering professors and instructors in education reached $45,050 in 1990, according to the 20th survey report on **SALARIES OF ENGINEERS IN EDUCATION 1990** by the **Engineering Manpower Commission** of the **American Association of Engineering Societies**. The 1990 survey reports data on salaries of 12,549 engineering educators. Full professors had an overall median salary of $62,150 compared to only $34,600 for instructors (**Table 228**). Faculty in engineering schools earn considerably more than their colleagues in technology schools as shown in **Tables 229** and **230**. For example, full professors in engineering schools reported a median salary of $62,650, nearly 39% more than the $45,100 earned by full professors in technology schools. Salaries of engineering faculty by rank, type of school and length of contact are shown in **Table 231**.

The average salary, regardless of rank or geographic area, for faculty in chemical engineering departments in academic year 1989-90 was $56,757, according to the **1989-90 Survey of Faculty Salaries, Chemical Engineering Departments**, prepared by **Robert R. Furgason** for presentation to the **American Institute of Chemical Engineers**. Overall, chemical engineering faculty working in the Pacific region reported the highest average salary - $64,527, while those working in the East South Central earned the least - $49,996 (**Table 232**).

Salaries of pharmacy faculty increased 7.3% for the 1989-90 year, up slightly from the 6.9% increase reported for the 1988-89 period, according to the **ANNUAL SURVEY OF FACULTY SALARIES** by the **American Association of Colleges of Pharmacy**. Regardless of type of school, discipline, rank or experience level, women faculty continue to earn less than their male colleagues, although the disparity is beginning to narrow. By discipline, on a calendar year basis, average salaries of pharmacy faculty ranged from a high of $61,246 for those in medicinal/pharm/chem/pharmacognosy to a low of $47,456 for those in pharmacy practice (**Table 233**). **Table 234** presents average salaries of pharmacy faculty by rank, years in rank and sex. Not surprisingly, salaries of women faculty in pharmacy are more equal in the early years of their career, and widen as they get older (**Table 235**). The higher the academic degree, the higher the salary regardless of appointment year. This is true for both men and women (**Table 236**).

Average starting salaries for physiology faculty regardless of type of school range from $70,351 for full professors to $28,344 for instructors (**Table 238**), according to the annual survey of physiology departments conducted by the **American Physiological Society** and reported in THE PHYSIOLOGIST. Overall, salaries ranged from a high of $97,259 for chairman of physiology departments to a low of $28,344 for instructors. As shown in **Table 237**, medical schools pay higher salaries than non-medical schools, and private medical schools pay more than public ones. Generally, the more seniority one has, the higher the salary, regardless of rank (**Table 239**). By geographic region, salaries ranged from a high of $105,055 to chairmen of physiology departments in the Northeast to a low of $26,692 for instructors in the South (**Table 240**).

The **1989-90 Survey of Departments** by the **American Political Science Association** covers data from

697 departments, varying from undergraduate through PhD. As shown in **Table 241**, except at the rank of full professor, median salaries for women are either equal or very close to those for their male colleagues.

Average salaries for professors in business schools rose to $65,400, according to the 23rd annual **1990-1991 SALARY SURVEY** conducted by the **American Assembly of Collegiate Schools of Business**. The survey includes salary data from 482 institutions covering over 23,700 faculty members and 3,300 administrators. Women comprise approximately 17.1% of the faculty at AACSB accredited schools. Women with new PhDs received salaries that averaged 95.5% of the salaries paid to all new doctorates, and women ABDs received salaries that averaged 102.1% as shown in **Table 242**.

By field, salaries of business faculty ranged from a high of $70,700 for professors in finance to a low of $27,100 for instructors in business education **Table 243**). Overall, administrative personnel in business schools earn higher salaries than do faculty. Not surprisingly, administrators report higher salaries in accredited business schools than in non-accredited schools. Salaries by type of institution for administrative personnel in business schools are reported in **Table 244**.

Salaries of higher education administrators based on results from 1,402 institutions, rose 5.4% during 1990, according to the 14th annual **1990-91 ADMINISTRATIVE COMPENSATION SURVEY**, conducted by the **College and University Personnel Association**. Administrators at public institutions got an average 5.7% increase, while salaries for their colleagues at private institutions rose 5.5%. The Consumer Price Index rose 4.7% in the same period.

Most of the highest paid administrators on campus are deans, headed as usual, by the Dean of Medicine, with a median salary of $160,172. Salaries of administrators by position and type of institution are shown in **Table 245**. Administrative salaries rose most at PhD-granting institutions (6.2%). General baccalaureate schools showed a 5.2% gain, followed by two-year (4.6%) and comprehensive (4.0%) institutions.

Women and members of minority groups generally receive lower salaries than do majority men in similar positions. Some of the discrepancy can be explained by the fact that women and members of minority groups have spent less time in their current jobs. Median salaries paid to administrative personnel by position, type of institution, sex and minority/non-minority status are shown in **Tables 246** and **247** respectively.

The average faculty salary for all ranks combined at four-year public institutions was $42,355 compared to $34,404 at private institutions, according to **SALARIES OF FULL-TIME INSTRUCTIONAL FACULTY ON 9- AND 10-MONTH CONTRACTS IN INSTITUTIONS OF HIGHER EDUCATION, 1979-89 THROUGH 1989-90** from the **National Center for Education Statistics** of the **U. S. Department of Education**. Women earned less than their male colleagues, regardless of type of institution or (**Table 249**) or academic rank (**Table 250**). Women most closely matched the salaries paid to men at the instructor and associate professor levels. Salaries by type of institution and academic rank are shown in **Table 251**. By state, faculty salaries are highest in California at $46,476 for all ranks combined and lowest in South Dakota at $29,437 (**Table 248**).

The **National Education Association** in its **ESTIMATES OF SCHOOL STATISTICS** collects data on average annual salaries of instructional staff and classroom teachers, at both the elementary and secondary school level. In its 49th year, the NEA in its 1990-91 report estimates that the average classroom teacher's salary increased 5.4% over the previous year to $33,015. Highest average salaries for classroom teachers were paid by Alaska - $43,861, followed closely by those in Connecticut at $43,847, while instructional staff earned the most in the District of Columbia - $52,278 (**Table 252**).

SOURCE: College and University Personnel Association, *1990-91 National Faculty Salary Survey By Discipline and Rank in State Colleges and Universities*, 1991.

TABLE 202

AVERAGE FACULTY SALARIES IN STATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK 1990-91

DISCIPLINE / MAJOR FIELD	RANK											
	Professor		Associate Professor		Asst. Professor		New Asst. Prof.		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
AGRIBUSINESS & AGRIC. PRODUCTION	117	44,028	88	37,772	86	33,611	10	29,495	14	36,650	305	38,947
ARCHITECTURE & ENVIRONMENTAL DESIGN	66	49,831	67	41,540	61	34,341	10	31,834	11	30,115	205	41,454
AREA AND ETHNIC STUDIES	65	51,499	57	41,692	43	34,397	6	30,930	18	29,727	183	42,595
BUSINESS AND MANAGEMENT												
Accounting	509	58,680	565	49,198	662	42,635	77	42,799	195	28,343	1,931	47,341
Business and Management	547	56,309	552	46,963	622	41,873	79	43,896	166	28,429	1,887	46,364
Business Economics	327	52,482	295	44,543	281	39,131	40	38,518	51	27,157	954	44,740
Business Admin. & Management, General	749	55,347	831	46,298	809	40,550	143	43,373	260	27,919	2,649	45,297
Hotel / Motel Management	13	52,028	16	43,521	9	41,442	2	39,750	2	22,607	40	44,772
Marketing Management	263	56,608	197	47,961	219	43,864	35	45,425	74	28,393	753	47,866
Secretarial & Related Programs	93	47,306	119	38,517	117	32,653	12	36,088	36	24,408	365	37,485
COMMUNICATIONS	433	48,407	493	38,976	612	31,627	116	30,393	257	25,833	1,795	36,863
COMMUNICATIONS TECHNOLOGIES	44	50,252	41	38,842	50	32,002	3	32,570	12	26,129	147	38,892
COMPUTER & INFORMATION SCIENCE	432	55,229	568	46,270	691	40,456	115	41,417	242	29,091	1,933	44,043
EDUCATION	1,062	48,349	936	39,781	889	32,515	176	32,602	225	25,833	3,112	39,620
Curriculum & Instruction	297	47,508	225	38,776	252	31,333	50	29,792	73	24,434	847	38,387
Higher Education Administration	167	50,045	123	40,553	69	33,060	9	30,512	7	26,211	366	43,197
Industrial Arts Educaton	146	48,155	130	40,044	137	33,699	17	34,234	30	26,328	443	39,826
Physical Education	664	483190	653	39,808	843	33,017	88	30,538	484	27,419	2,644	37,479
Reading Education	75	47,629	47	38,097	54	31,953	3	33,382	22	24,921	198	38,568
Special Education, General	263	49,300	200	39,348	177	32,392	42	30,070	48	26,287	688	40,451
Student Counseling & Personnel Services	218	48,864	150	38,326	132	31,638	28	29,687	25	28,432	525	40,549
Teacher Education General Programs	663	48,754	496	38,788	590	32,062	129	31,035	120	26,005	1,869	39,379
ENGINEERING	854	57,756	700	47,171	594	40,799	99	41,365	66	31,856	2,214	49,087
ENGINEERING TECHNOLOGIES	261	48,228	365	40,784	393	33,896	46	33,852	105	27,427	1,124	38,856
ALLIED HEALTH												
Allied Health	94	49,759	172	38,643	203	32,093	24	32,047	84	26,896	553	36,343
Occupational Therapy	10	49,484	20	38,807	29	33,513	3	34,517	16	27,175	75	35,702
Physical Therapy	16	48,466	39	40,584	51	35,270	11	35,078	21	27,507	127	37,280

*Includes 281 Institutions.

SOURCE: College and University Personnel Association, *1990-91 National Faculty Salary Survey By Discipline and Rank in State Colleges and Universities,* 1991.

TABLE 202 (Continued)

AVERAGE FACULTY SALARIES IN STATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK 1990-91

DISCIPLINE / MAJOR FIELD	RANK											
	Professor		Associate Professor		Asst. Professor		New Asst. Prof.		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
FOREIGN LANGUAGE	593	49,163	607	38,415	643	30,964	116	29,134	220	24,046	2,063	37,649
HEALTH SCIENCES												
Speech Pathology / Audiology	192	50,454	167	39,505	155	32,008	32	31,128	60	26,338	574	39,766
Nursing, General	248	49,137	741	39,425	1,374	32,380	140	31,044	493	27,399	2,856	34,801
HOME ECONOMICS	176	48,723	258	38,795	342	32,573	48	32,157	111	24,297	887	36,551
LETTERS	1,999	47,697	1,523	38,268	1,682	30,246	262	28,296	895	22,746	6,099	36,868
LIBRARY AND ARCHIVAL SCIENCES	95	49,104	115	39,037	161	32,282	14	28,060	59	26,205	430	36,971
LIFE SCIENCE	1,789	49,247	930	39,918	776	32,287	134	30,533	136	24,321	3,631	42,299
MATHEMATICS	1,360	50,379	1,255	40,386	1,258	33,327	220	33,029	506	24,776	4,379	39,657
MULTI / INTERDISCIPLINARY STUDIES	111	49,826	101	40,848	74	33,095	4	29,638	16	29,124	302	41,626
PHILOSOPHY AND RELIGION	461	49,922	295	39,169	236	31,007	56	28,740	41	26,679	1,033	41,607
PHYSICAL SCIENCES	253	48,108	142	38,822	125	32,324	25	34,813	26	23,615	546	40,913
Chemistry, General	1,065	50,301	489	39,355	421	32,171	96	30,720	67	25,131	2,042	43,116
Geology	346	49,173	203	39,065	127	31,954	22	31,264	23	27,978	699	42,411
Physics, General	723	51,117	375	40,408	280	34,042	66	32,586	57	27,452	1,435	44,046
PSYCHOLOGY	1,384	49,892	885	39,597	745	31,863	144	30,607	90	26,904	3,104	41,963
PROTECTIVE SERVICES	124	47,688	157	38,927	183	31,249	38	29,730	35	26,227	499	37,397
SOCIAL SCIENCES												
Social Sciences	353	46,296	358	37,360	303	30,506	54	30,487	70	24,376	1,084	37,515
Anthropology	238	50,005	141	38,965	103	31,694	22	29,123	7	26,550	489	42,628
Economics	388	53,447	289	42,574	258	36,452	43	37,174	47	29,901	982	44,654
Geography	333	50,249	22	39,688	198	32,243	37	31,114	25	28,201	778	41,944
History	1,362	49,033	614	38,862	498	30,108	103	27,764	67	25,126	2,541	42,236
Political Science & Government	722	50,105	445	39,122	427	31,145	103	29,835	57	26,561	1,651	41,428
Sociology	692	49,428	566	39,175	407	31,543	79	29,799	68	25,773	1,733	40,951
VISUAL & PERFORMING ARTS												
Dramatic Arts	272	48,519	260	37,332	266	30,425	51	29,643	57	25,905	855	37,980
Drawing	730	47,143	534	37,409	499	30,631	90	29,496	83	24,626	1,846	38,851
Music, General	1,037	47,296	936	37,416	838	30,364	139	29,269	226	26,632	3,037	38,041
Visual & Performing Arts	404	46,326	391	36,935	382	30,097	67	29,443	79	25,296	1,256	37,144
ALL DISCIPLINES	25,898	50,041	21,144	40,501	21,436	33,582	3,578	32,576	6,285	26,052	74,763	40,607

*Includes 281 Institutions.

SOURCE: College and University Personnel Association, *1990-91 National Faculty Salary Survey by Discipline and Rank in Private Colleges and Universities.*

TABLE 203

AVERAGE FACULTY SALARIES FOR PRIVATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK, 1990 - 91

DISCIPLINE/MAJOR FIELD	RANK											
	Professor		Associate Professor		Asst. Professor		New Asst. Professor		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
AGRIBUSINESS & AGRIC. PRODUCTION	14	$41,203	12	$30,706	23	$29,188	2	$29,500	1	$21,380	50	$32,760
ARCHITECTURE AND ENVIRONMENTAL DESIGN	64	54,329	59	42,484	58	35,930	6	32,322	7	26,079	188	43,833
AREA AND ETHNIC STUDIES	16	53,130	21	42,202	9	31,821	1	31,242			46	43,972
BUSINESS AND MANAGEMENT												
Business and Management	382	59,787	433	48,627	513	42,361	64	40,545	107	29,702	1,435	47,947
Accounting	222	57,303	362	46,298	446	39,025	56	40,491	116	30,475	1,146	43,997
Business Economics	191	51,117	253	42,306	266	37,013	36	37,743	31	30,160	741	42,169
Business Mgmt. & Administration, General	478	62,268	708	44,923	780	38,406	109	39,725	140	29,326	2,106	45,409
Hotel / Motel Management	6	47,949	17	40,974	17	33,676	1	36,000	10	26,317	50	36,398
Marketing Management	65	60,110	114	49,270	117	42,194	25	43,514	32	32,700	328	47,277
Secretarial & Related Programs	8	41,811	29	30,920	30	23,739			28	25,037	95	27,835
COMMUNICATIONS	253	46,734	374	38,412	507	30,258	91	29,161	125	24,974	1,259	35,466
COMMUNICATION TECHNOLOGIES	30	50,217	40	37,901	66	32,520	10	32,259	21	23,356	157	36,046
COMPUTER & INFORMATION SCIENCES	231	56,047	382	43,283	459	35,772	51	35,120	125	28,197	1,197	41,290
EDUCATION	559	47,162	551	36,755	564	30,085	98	30,100	91	24,895	1,765	37,308
Curriculum & Instruction	43	53,862	35	41,165	21	32,253	3	36,900	2	27,150	101	44,440
Higher Education Administration	31	47,620	25	41,325	20	33,153	5	33,890	3	35,119	79	41,490
Physical Education	244	43,042	384	36,111	407	28,989	49	26,996	217	24,339	1,252	33,106
Reading Education	12	47,991	12	33,656	10	28,467	1	23,785	8	23,071	42	34,500
Special Education, General	44	48,042	44	35,624	49	28,967	11	28,264	16	21,656	153	35,602
Student Counseling & Personnel Services	36	48,971	33	40,827	29	31,050	4	34,625	4	22,741	102	40,212
Teacher Education, General Programs	171	39,284	208	33,850	228	28,370	45	28,091	42	22,902	649	32,648
ENGINEERING	945	66,465	686	50,424	568	43,867	62	40,737	32	30,294	2,231	55,260
Engineering Technologies	41	46,129	78	39,950	72	34,062	6	33,098	25	29,277	216	37,925
FOREIGN LANGUAGES	564	46,925	646	37,456	729	30,511	177	28,582	191	24,084	2,130	36,387
HEALTH SCIENCES												
Nursing, General	133	43,461	422	35,176	773	29,740	73	29,553	255	25,367	1,583	31,637
Speech Pathology & Audiology	29	50,560	40	39,112	33	30,264	2	30,500	9	25,709	111	38,386

SOURCE: College and University Personnel Association, *1990-91 National Faculty Salary Survey by Discipline and Rank in Private Colleges and Universities.*

TABLE 203 (Continued)

AVERAGE FACULTY SALARIES FOR PRIVATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK, 1990-91

DISCIPLINE/MAJOR FIELD	RANK											
	Professor		Associate Professor		Asst. Professor		New Asst. Professor		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
ALLIED HEALTH												
Allied Health	18	$50,447	68	$41,594	85	$32,286	11	$31,801	36	$22,629	207	$35,243
Occupational Therapy	2	51,250	15	39,023	28	33,568	6	31,454	10	27,661	55	34,624
Physical Therapy	1	47,107	19	44,675	45	35,928	2	38,250	14	26,808	79	36,557
HOME ECONOMICS	39	41,123	68	35,020	112	30,508	14	30,176	23	25,698	242	33,029
LETTERS	1,244	46,401	1,002	36,087	1,105	29,210	183	27,882	301	25,179	3,652	36,620
LIBRARY AND ARCHIVAL SCIENCES	27	45,695	59	36,230	84	29,550	16	26,862	13	24,622	183	33,736
LIFE SCIENCES	895	46,594	635	36,651	463	30,169	93	28,968	68	22,908	2,061	39,059
MATHEMATICS	818	51,622	755	38,802	785	31,949	123	31,299	229	24,646	2,587	39,523
MULTI/INTERDISCIPLINARY STUDIES	136	41,824	68	37,693	62	30,292	4	26,097	17	29,279	283	37,551
PHILOSOPHY AND RELIGION	908	45,808	568	36,407	539	30,159	93	28,866	68	24,396	2,083	38,496
PHYSICAL SCIENCES												
Physical Sciences	194	54,318	71	41,428	102	33,064	12	31,042	18	23,382	385	44,[illegible]3
Chemistry, General	786	50,342	390	37,226	392	30,995	84	29,312	26	24,701	1,594	41,957
Geology	166	57,157	75	43,264	56	32,777	7	30,857			297	49,052
Physics, General	548	55,801	299	41,083	282	36,168	51	33,894	14	29,734	1,143	46,788
PHYSCOLOGY	719	47,857	609	36,959	593	30,331	125	29,244	48	24,881	1,969	38,648
PROTECTIVE SERVICES	36	53,755	30	37,472	33	30,686	6	29,333	6	23,237	105	40,108
SOCIAL SCIENCES												
Social Sciences	272	51,564	229	36,148	240	31,525	39	30,703	40	25,364	781	39,544
Anthropology	70	51,213	77	39,168	65	31,766	10	29,702	4	29,267	216	40,660
Economics	251	64,690	253	41,734	244	36,542	36	32,609	29	29,901	777	47,077
Geography	35	50,840	20	37,813	26	31,574	4	28,750	3	24,879	84	40,848
History	752	47,208	489	37,044	437	29,564	80	27,531	50	24,756	1,728	39,220
Political Science and Government	438	50,466	317	38,640	322	31,203	59	29,584	40	26,735	1,117	40,707
Sociology	344	47,125	390	36,807	324	30,018	59	28,229	36	23,566	1,084	37,517
THEOLOGY	520	41,631	344	34,870	324	29,494	40	27,516	40	26,177	1,228	36,031
VISUAL & PERFORMING ARTS												
Dramatic Arts	137	46,441	196	35,611	214	29,131	37	27,512	47	26,215	594	35,031
Drawing	288	43,879	281	34,281	313	28,630	47	26,882	57	24,408	939	34,741
Music, General	555	42,569	621	34,045	530	28,707	63	27,929	124	24,221	1,830	34,418
Visual & Performing Arts	201	46,347	241	36,396	263	29,640	28	28,189	44	24,896	749	36,018
ALL DISCIPLINES	15,202	50,187	14,157	39,005	14,862	32,426	2,260	31,037	3,043	25,804	47,264	39,683

*Includes 470 institutions.

SOURCE: American Association of University Professors, *The Annual Report of the Economic Status of the Profession, 1990-91*, Special Issue, March - April 1991.

TABLE 204

WEIGHTED AVERAGE SALARIES OF FACULTY BY ACADEMIC RANK, TYPE OF INSTITUTION (CATEGORY*) AND TYPE OF AFFILIATION, 1990-91

ACADEMIC RANK	ALL COMBINED		PUBLIC		PRIVATE INDEPENDENT		CHURCH-RELATED	
	AVERAGE SALARY	%CHANGE OVER 1989-90	AVERAGE SALARY	% CHANGE OVER 1989-90	AVERAGE SALARY	% CHANGE OVER 1989-90	AVERAGE SALARY	% CHANGE OVER 1989-90
CATEGORY I								
(Doctoral Level)								
Professor	$62,910	5.5	$60,450	5.2	$72,950	6.5	$60,790	5.3
Associate Professor	44,870	5.1	44,000	4.9	49,420	5.9	44,980	5.4
Assistant Professor	37,820	5.2	36,980	4.8	41,640	6.4	38,030	6.6
Instructor	26,840	4.9	25,910	5.3	32,340	3.9	30,000	1.9
Lecturer	31,810		31,290		34,460		28,080	
All Ranks	49,320	5.4	47,650	5.1	57,320	6.3	47,520	5.6
CATEGORY II-A								
(Comprehensive)								
Professor	52,180	5.4	52,190	5.3	52,820	5.5	51,180	6.4
Associate Professor	41,390	5.5	41,570	5.2	41,050	6.1	40,700	6.9
Assistant Professor	34,160	5.7	34,460	5.4	33,020	6.3	33,950	6.6
Instructor	25,980	4.8	26,170	4.6	24,250	4.7	27,310	7.6
Lecturer	26,920		26,500		28,380		33,560	
All Ranks	41,830	5.5	42,170	5.3	40,730	5.9	41,010	6.6
CATEGORY II-B								
(General Baccalaureate)								
Professor	44,570	5.9	44,900	5.5	49,610	6.1	40,040	6.0
Associate Professor	35,980	5.8	37,550	5.6	38,200	6.0	33,080	5.8
Assistant Professor	29,980	6.1	31,390	5.7	51,570	6.3	28,020	6.2
Instructor	24,760	6.2	26,510	6.1	25,470	5.8	23,600	6.5
Lecturer	28,030		27,110		32,840		22,470	
All Ranks	35,480	6.0	36,410	5.6	38,620	6.1	32,440	6.0
CATEGORY III								
(Two Year Colleges with Ranks)								
Professor	44,620	4.4	45,050	4.3	35,080	6.6	30,460	9.6
Associate Professor	37,680	4.3	38,070	4.3	29,950	5.6	26,320	4.8
Assistant Professor	31,470	4.5	31,870	4.5	27,150	6.1	23,300	4.3
Instructor	26,740	4.2	27,060	4.1	21,530	5.8	20,520	9.2
Lecturer	22,370		22,490					
All Ranks	35,960	4.4	36,420	4.3	28,280	5.1	25,320	6.4
ALL CATEGORIES COMBINED EXCEPT IV								
Professor	56,210	5.5	55,830	5.2	61,620	6.2	47,240	6.0
Associate Professor	41,780	5.3	42,210	5.0	43,280	6.0	37,540	6.0
Assistant Professor	34,640	5.5	35,200	5.1	35,540	6.4	31,050	6.4
Instructor	26,090	5.0	26,330	4.8	26,240	4.9	24,800	6.4
Lecturer	29,930		29,310		33,190		27,690	
All Ranks	43,720	5.4	44,020	5.1	47,010	6.2	37,270	6.1
CATEGORY IV								
(Two-Year Colleges Without Rank)								
No Rank	37,030	5.4	37,200	5.4	28,660	5.2	24,800	5.2

NOTE: Blanks indicate too few responses to be meaningful, or no one in rank. The percent change for all ranks includes the rank of lecturer and the "no rank" categories.

SOURCE: American Association of University Professors, *The Annual Report on the Economic Status of the Profession, 1990-91*, Special Issue, March - April 1991.

TABLE 205

WEIGHTED AVERAGE COMPENSATION OF FACULTY BY ACADEMIC RANK, CATEGORY* AND TYPE OF AFFILIATION, 1990-91

ACADEMIC RANK	ALL COMBINED	PUBLIC	PRIVATE INDEPENDENT	CHURCH-RELATED
	Average Compensation	Average Compensation	Average Compensation	Average Compensation
CATEGORY I (Doctoral Level) Professor	$76,800	$73,420	$90,200	$75,570
Assoc. Professor	55,820	54,520	62,310	56,730
Ass't. Professor	47,000	46,000	51,640	46,960
Instructor	34,310	33,190	41,010	37,960
Lecturer	39,740	39,110	43,030	34,980
All Ranks	60,790	58,550	71,260	59,290
CATEGORY II-A (Comprehensive) Professor	64,590	64,420	66,280	63,620
Assoc. Professor	51,770	51,950	51,490	51,060
Ass't. Professor	42,780	43,290	40,730	42,480
Instructor	32,490	32,900	29,400	34,210
Lecturer	33,690	33,270	34,870	41,500
All Ranks	52,090	52,460	50,810	51,220
CATEGORY II-B (General Baccalaureate) Professor	55,640	55,370	62,540	49,840
Assoc. Professor	44,950	46,800	48,070	41,480
Ass't. Professor	37,080	39,260	39,210	34,390
Instructor	30,250	32,290	31,340	28,520
Lecturer	35,050	33,850	41,590	27,300
All Ranks	44,140	45,230	48,430	40,110
CATEGORY III (Two -Year Colleges With Ranks) Professor	55,850	56,440	42,940	36,870
Assoc. Professor	47,310	47,850	36,760	31,700
Ass't. Professor	40,090	40,690	33,760	28,270
Instructor	34,340	34,840	26,240	24,890
Lecturer	28,910	29,110		
All Ranks	45,390	46,030	34,650	30,630
CATEGORY IV (Two-Year Colleges Without Ranks) No Rank	45,510	45,720	35,630	30,0810
ALL CATEGORIES COMBINED EXCEPT IV Professor	69,120	68,320	77,920	58,750
Assoc. Professor	52,130	52,530	54,440	46,940
Ass't. Professor	43,200	44,060	44,030	38,310
Instructor	32,850	33,450	32,360	30,350
Lecturer	37,430	36,710	41,400	34,250
All Ranks	54,200	54,470	58,600	46,300

*See original survey for definition of categories

NOTE: Blanks indicate too few individuals for data to be meaningful. Sample includes 2,215 Institutions

SOURCE: American Association of University Professors, *The Annual Report on the Economic Status of the Profession, 1990-91*. Special Issue, March - April, 1991

TABLE 206

WEIGHTED AVERAGE SALARIES OF FACULTY BY ACADEMIC RANK, CATEGORY*, TYPE OF AFFILIATION, AND SEX. 1990-91

ACADEMIC RANK	ALL COMBINED		PUBLIC		PRIVATE/INDEPENDENT		CHURCH RELATED	
	Men	Women	Men	Women	Men	Women	Men	Women
CATEGORY I (Doctoral Level) Professor	$63,520	$57,130	$61,010	$55,000	$73,780	$65,200	$61,200	$56,900
Associate Professor	45,510	42,800	44,610	41,970	50,310	46,730	45,570	43,060
Assistant Professor	39,140	35,510	38,280	34,760	42,860	39,130	39,190	36,270
Instructor	28,650	25,560	27,440	24,890	34,210	30,500	32,090	27,780
Lecturer	34,460	29,340	33,750	29,020	37,900	31,170	30,010	26,460
CATEGORY II - A (Comprehensive) Professor	52,490	50,520	52,410	51,000	53,390	49,890	51,860	47,120
Associate Professor	41,960	39,890	42,050	40,330	41,940	38,840	41,450	38,580
Assistant Professor	35,050	32,940	35,260	33,340	34,120	31,570	35,020	32,430
Instructor	26,900	25,310	27,130	25,480	25,040	23,570	28,400	26,540
Lecturer	28,710	25,500	28,220	25,190	30,040	26,500	36,090	31,420
CATEGORY II - B (General Baccalaureate) Professor	45,080	42,060	45,210	43,210	50,240	46,580	40,540	37,590
Associate Professor	36,570	34,660	37,840	36,810	38,890	36,680	34,000	32,030
Assistant Professor	30,550	29,250	32,080	30,370	32,030	31,020	28,600	27,450
Instructor	25,430	24,230	27,200	25,210	25,910	25,180	24,110	23,180
Lecturer	29,220	27,170	28,630	26,020	33,330	32,500	23,850	21,450
CATEGORY III (Two-Year Colleges with Ranks) Professor	45,400	42,720	45,820	43,190	36,400	37,020	30,330	30,700
Associate Professor	38,810	36,000	39,190	36,400	31,290	28,620	25,880	26,970
Assistant Professor	32,260	30,570	32,590	31,040	28,970	26,110	23,890	22,760
Instructor	27,450	26,140	27,730	26,490	22,470	20,920	19,940	20,870
Lecturer	23,100	22,020	23,280	22,120				
ALL CATEGORIES COMBINED EXCEPT IV Professor	57,080	50,530	56,590	50,840	63,830	54,250	48,080	42,460
Associate Professor	42,600	39,600	42,940	40,210	44,340	40,580	38,420	35,330
Assistant Professor	35,840	32,890	36,330	33,490	36,940	33,440	32,000	29,820
Instructor	27,120	25,310	27,390	25,530	27,350	25,340	25,600	24,160
Lecturer	32,370	27,830	31,640	27,340	35,950	30,560	29,620	26,090
CATEGORY IV (Two-Year Colleges without Rank) No Rank	39,360	31,760	39,500	31,930	29,760	27,570	26,300	23,190

Blanks indicate too few individuals to be meaningful. Sample includes 2,191 institutions providing data by gender.

SOURCE: American Association of University Professors, *The Annual Report on the Economic Status of the Profession, 1990-91*. Special Issue, March - April, 1991

TABLE 207

WEIGHTED AVERAGE SALARIES OF FACULTY BY ACADEMIC RANK, CATEGORY*, AND REGION, 1990 - 91

ACADEMIC RANK	WEST		NORTH CENTRAL		NORTHEAST		SOUTH		
	Pacific	Mountain	West N. Central	East N. Central	Middle Atlantic	New England	West S. Central	East S. Central	South Atlantic
CATEGORY I (Doctoral Level)									
Professor	$67,420	$53,020	$57,960	$61,780	$70,730	$70,720	$58,740	$55,460	$62,620
Associate Professor	45,660	40,760	43,100	45,080	49,760	48,060	42,190	41,400	44,920
Assistant Professor	39,130	35,310	36,790	37,660	40,520	40,890	36,040	35,340	37,670
Instructor	28,520	25,600	25,740	25,620	28,280	32,140	26,100	24,190	28,250
Lecturer	37,790	28,210	24,620	28,420	31,940	37,390	27,430	26,620	29,880
ALL RANKS	53,530	43,330	46,830	48,670	54,880	55,580	45,380	43,900	48,500
CATEGORY II - A (Comprehensive)									
Professor	57,640	46,750	47,600	49,090	54,770	55,100	46,010	45,870	50,890
Associate Professor	44,560	38,840	38,750	40,400	43,820	43,900	37,940	38,110	41,420
Assistant Professor	36,710	33,160	32,800	33,890	35,600	36,460	32,160	31,960	34,710
Instructor	30,250	25,660	25,890	26,460	28,510	29,570	24,520	24,830	27,150
Lecturer	29,260	28,590	21,610	26,600	30,500	35,530	21,810	22,890	27,850
ALL RANKS	49,540	37,670	38,080	40,050	44,020	45,350	36,430	37,030	40,620
CATEGORY II - B (General Baccalaureate)									
Professor	48,960	41,800	41,800	43,300	48,580	53,050	39,480	38,940	43,300
Associate Professor	37,590	34,010	34,070	35,110	38,610	39,930	33,490	31,840	35,720
Assistant Professor	31,710	28,280	28,820	29,260	31,730	32,670	29,060	27,690	29,570
Instructor	27,110	23,370	24,280	24,960	27,440	27,960	24,810	22,310	24,980
Lecturer	28,540	23,780	21,740	25,510	30,250	34,430	22,920	19,120	28,160
ALL RANKS	38,820	33,990	33,100	34,550	37,930	40,810	32,750	31,720	34,790
CATEGORY III (Two-Year Colleges with Ranks)									
Professor	44,630	34,840	45,810	42,660	47,550	45,520	40,160	37,290	43,700
Associate Professor	39,320	31,420	38,180	38,190	39,550	37,270	35,420	31,120	36,470
Assistant Professor	32,250	28,010	30,950	32,200	32,880	32,440	31,530	25,810	31,080
Instructor	34,860	24,850	25,950	27,780	27,540	30,330	27,020	23,370	25,840
Lecturer				21,970	21,760	34,670			21,640
ALL RANKS	42,960	28,960	37,500	35,910	38,110	38,800	33,110	28,610	35,220
ALL CATEGORIES COMBINED EXCEPT IV									
Professor	61,280	50,710	51,190	55,200	60,100	61,470	51,920	49,180	55,200
Associate Professor	44,700	39,280	39,290	41,720	44,210	44,430	39,380	38,130	41,480
Assistant Professor	37,340	33,690	32,880	34,740	35,840	36,830	33,460	32,230	34,360
Instructor	29,820	25,230	25,290	26,040	27,610	30,000	25,110	24,050	26,570
Lecturer	36,790	28,080	22,400	27,240	30,660	36,860	25,830	24,550	28,690
ALL RANKS	50,450	40,630	40,110	43,290	45,970	48,320	40,030	38,570	42,540
CATEGORY IV (Institutions without Rank)									
No Rank	43,100	35,280	32,500	38,200	21,510	32,269	32,210	30,060	28,340

NOTE: Sample includes 2,059 institutions.

SOURCE: American Association of University Professors, *The Annual Report on the Economic Status of the Profession, 1990-91,* March - April 1991.

TABLE 208

AVERAGE SALARY, FRINGE BENEFITS, COMPENSATION AND PERCENT TENURED OF FULL-TIME FACULTY MEMBERS IN INSTITUTIONS OF HIGHER EDUCATION BY RANK, 1990-91

ACADEMIC RANK	Average Salary	Average Fringe Benefits	Average Compensation	Benefits As % of Salary	% Tenured
Professor	$56,210	$12,910	$69,120	23.0	97
Associate Professor	41,780	10,350	52,130	24.8	83
Assistant Professor	34,640	8,550	43,200	24.7	17
Instructor	26,090	6,760	32,850	25.9	6
Lecturer	29,930	7,510	37,430	25.1	1
No Rank	31,690	7,820	39,510	24.7	13
All Ranks	43,720	10,480	54,20[illegible]	24.0	64

SOURCE: Oklahoma State University, *1990-91 Faculty Salary Survey by Discipline of Institutions Belonging to NASULGC,* as reported in ACADEME, American Association of University Professors, March-April 1991

TABLE 209

AVERAGE SALARIES OF FACULTY BY DISCIPLINE AND SELECTED RANK, 1990-91

DISCIPLINE	FULL PROFESSOR		NEW ASSISTANT	
	Average Salary	Percent Change	Average Salary	Percent Change
Agricultural Sciences	$53,269	4.4	$33,471	3.8
Architecture	56,749	6.4	32,602	1.8
Area Studies	59,590	6.8	31,047	5.9
Biology	58,976	9.2	34,476	7.8
Business	71,873	8.1	52,553	9.4
Communications	54,951	5.4	32,774	6.1
Computer & Information Sciences	70,616	5.4	43,998	8.2
Education	53,130	4.8	31,289	6.6
Engineering	69,586	6.5	43,987	5.1
Fine Arts	50,587	8.0	29,140	9.3
Foreign Languages	55,221	5.0	30,036	11.9
Home Economics	54,026	7.2	33,252	6.8
Interdisc. Studies	62,066	7.8	33,376	21.0
Law	83,383	5.7	49,129	13.1
Letters	55,601	4.7	29,748	7.8
Library Sciences	60,565	7.1	34,981	9.1
Mathematics	60,766	6.2	34,779	5.8
Philosophy	57,519	6.5	28,358	1.6
Physical Sciences	62,669	6.0	34,692	2.0
Psychology	60,015	6.0	33,833	7.6
Public Affairs	58,283	4.9	33,962	8.8
Social Sciences	60,182	6.3	32,871	7.6
All Major Fields	61,475	6.0	37,511	9.8

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1989.*

TABLE 210

NUMBER AND MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED IN EDUCATIONAL INSTITUTIONS BY FIELD, 1985-1989

FIELD	1985				1987				1989			
	Number	%	% of total employed	Median annual salary	Number	%	% of total employed	Median annual salary	Number	%	% of total employed	Median annual salary
ALL FIELDS	211,611	100.0	52.9	$40,600	218,697	100.0	52.2	$45,900	230,932	100.0	51.5	$50,900
PHYSICAL SCIENTISTS	29,700	14.0	44.0	41,000	30,310	13.9	44.2	48,000	30,276	13.1	43.1	52,100
Chemists	16,073	7.6	36.8	39,400	16,255	7.4	36.8	44,800	16,100	7.0	35.3	48,200
Physicists/Astronomers	13,073	6.4	57.4	45,100	14,055	6.4	57.3	51,400	14,176	6.1	57.7	55,800
MATHEMATICAL SCIENTISTS	13,560	6.4	80.9	40,300	13,674	6.3	81.9	45,300	14,300	6.2	81.2	50,800
Mathematicians	11,645	5.5	83.4	40,200	11,632	5.3	83.8	45,400	12,313	5.3	82.8	50,700
Statisticians	1,915	0.9	68.4	42,200	2,042	0.9	72.4	45,000	1,987	0.9	72.4	51,400
COMPUTER/INFO. SPECIALISTS	5,288	2.5	35.3	43,600	5,558	2.5	29.9	49,700	6,553	2.8	33.1	55,100
ENVIRONMENTAL SCIENTISTS	7,222	3.4	41.8	40,900	7,483	3.4	42.0	45,400	8,001	3.5	40.4	50,600
Earth Scientists	5,059	2.4	38.3	41,100	5,116	2.3	37.7	47,000	5,690	2.5	37.6	50,500
Oceanographers	1,200	0.6	61.3	39,600	1,306	0.6	64.1	39,900	1,359	0.6	55.2	52,000
Atmospheric Scientists	963	0.5	45.3	45,500	1,061	0.5	48.3	42,800	952	0.4	43.5	48,000
ENGINEERS	21,697	10.3	32.9	48,600	23,710	10.8	35.0	55,500	25,112	16.7	33.6	61,500
LIFE SCIENTISTS	63,595	30.1	62.4	39,900	66,415	30.4	61.9	44,300	70,479	25.8	60.8	48,800
Biological Scientists	40,688	19.2	68.0	38,500	41,723	19.1	67.3	42,700	44,585	15.0	66.3	48,200
Agricultural Scientists	8,597	4.1	55.4	39,500	8,883	4.1	56.2	44,200	8,926	3.7	54.1	46,900
Medical Scientists	14,310	6.8	54.1	43,200	15,809	7.2	53.4	48,000	16,968	7.2	52.9	51,500
PSYCHOLOGISTS	24,893	11.8	47.7	37,600	25,369	11.6	45.0	42,100	26,425	13.5	43.6	47,100
SOCIAL SCIENTISTS	45,656	21.6	71.3	38,600	46,178	21.1	70.1	43,600	49,776	15.6	71.1	48,700
Economists	11,821	5.6	65.9	42,500	11,778	5.4	66.0	48,000	12,497	4.1	67.2	54,400
Soc./Anthropologists	10,621	5.0	83.7	37,000	10,420	4.8	80.6	41,900	11,171	3.0	82.6	45,900
Other Social Scientists	23,214	11.0	69.5	36,900	23,980	11.0	68.3	42,400	26,108	8.4	68.9	47,900

Note: Percents may not add to 100 because of rounding. Median salaries computed for full-time cililians only. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1989*

TABLE 211

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS WHO ARE UNIVERSITY OR 4-YEAR COLLEGE TEACHERS BY FIELD, SALARY BASE AND ACADEMIC RANK, 1989

FIELD AND SALARY BASE	TOTAL	ACADEMIC RANK			
		Professor	Associate Professor	Assistant Professor	Other
ALL FIELDS					
Aademic Year	$42,200	$50,700	$38,800	$32,500	$31,700
Calandar Year	51,500	65,400	49,000	39,400	37,600
PHYSICAL SCIENTISTS					
Aademic Year	42,200	50,000	36,200	30,900	
Calandar Year	55,700	67,500	48,100	38,000	41,500
CHEMISTS					
Aademic Year	40,000	46,700	35,100	29,800	
Calandar Year	50,700	61,000	45,700	31,400	35,000
PHYSICISTS/ASTRONOMERS					
Aademic Year	45,000	52,200	38,700	31,600	
Calandar Year	60,100	72,700	52,400	48,800	44,500
MATHEMATICAL SCIENTISTS					
Aademic Year	42,500	50,800	38,800	31,300	
Calandar Year	50,600	60,300	47,600	32,000	
MATHEMATICIANS					
Aademic Year	42,700	50,700	36,900	30,700	
Calandar Year	49,200	60,100	48,000	31,500	
STATISTICIANS					
Aademic Year	42,100	51,900	40,800	32,700	
Calandar Year	51,700				
COMPUTER/INFORMATION SPECIALISTS					
Aademic Year	46,000	55,300	45,500	43,200	
Calandar Year	51,300	74,000	50,900	48,600	42,600
ENVIRONMENTAL SCIENTISTS					
Aademic Year	40,800	50,200	37,100	32,200	
Calandar Year	52,300	66,400	46,400	38,900	39,400
EARTH SCIENTISTS					
Aademic Year	40,800	50,000	37,000	30,700	
Calandar Year	55,100	65,900	40,500	37,100	36,700
OCEANOGRAPHERS					
Aademic Year	41,700				
Calandar Year	52,100	65,900			36,800
ATMOSPHERIC SCIENTISTS					
Aademic Year	35,200				
Calandar Year	50,300				
ENGINEERS					
Aademic Year	50,300	58,200	45,700	40,900	
Calandar Year	63,700	77,500	51,900	49,100	54,500

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1989*

TABLE 211 (Continued)

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS WHO ARE UNIVERSITY OR 4-YEAR COLLEGE TEACHERS BY FIELD, SALARY BASE AND ACADEMIC RANK, 1989

FIELD AND SALARY BASE	TOTAL	ACADEMIC RANK			
		Professor	Associate Professor	Assistant Professor	Other
LIFE SCIENTISTS					
Aademic Year	38,900	47,000	36,200	31,800	
Calandar Year	50,200	64,900	49,400	40,300	32,600
BIOLOGICAL SCIENTISTS					
Aademic Year	39,600	46,500	35,700	30,700	
Calandar Year	49,400	65,400	49,600	40,300	32,800
AGRICULTURAL SCIENTISTS					
Aademic Year	37,700	50,100	34,100		
Calandar Year	46,600	56,300	43,500	37,700	34,200
MEDICAL SCIENTISTS					
Academic Year	$36,300	$49,800	$38,900	$32,900	
Calendar Year	54,400	72,400	55,100	43,500	$30,500
PSYCHOLOGIST					
Academic Year	38,800	49,500	37,900	30,000	
Calendar Year	46,000	58,500	49,500	39,300	38,400
SOCIAL SCIENTISTS					
Academic Year	40,800	50,500	38,200	30,800	
Calendar Year	48,400	60,200	45,000	32,800	43,000
ECONOMISTS					
Academic Year	45,500	53,500	41,500	36,500	
Calendar Year	51,600	61,400	50,000	40,100	
SOCIOLOGISTS/ ANTHROPOLOGISTS					
Academic Year	38,700	46,600	35,500	30,600	
Calendar Year	43,500	59,000	38,200	32,200	
OTHER SOCIAL SCIENTISTS					
Academic Year	40,100	50,500	37,500	29,200	
Calendar Year	47,100	60,200	47,000	31,800	40,000

NOTE: Includes Individuals reporting Teaching as their primary or secondary work activity. All median salaries were computed only for full-time employed civilians. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of the American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 212

MEDIAN AND MEAN ANNUAL SALARIES OF PH. D. CHEMISTS* EMPLOYED FULL-TIME IN COLLEGES AND UNIVERSITIES BY WORK FUNCTION LENGTH OF CONTRACT AND ACADEMIC RANK, 1990

ACADEMIC RANK	WORK FUNCTION					
	TEACHING		RESEARCH		ADMINISTRATION	
	Median	Mean	Median	Mean	Median	Mean
Professor						
9-10 Month	$46,300	$47,362	$62,000	$65,221	$58,000	$60,645
11-12 Month	57,000	56,817	74,600	78,184	77,000	78,484
Associate Professor						
9-10 Month	36,000	36,656	41,000	42,147		
11-12 Month	42,900	42,765	52,000	54,589	54,000	56,125
Assistant Professor						
9-10 Month	30,000	30,345	35,285	35,996		
11-12 Month	30,100	31,526	42,000	43,573		
Instructor						
9-10 Month	28,000	29,178				
11-12 Month	32,000	35,798	39,000	39,872		
Other Non-faculty						
11-12 Month			33,000	32,835	55,320	56,107

*Includes only members of the American Chemical Society.

Blanks indicate fewer than 15 respondents.

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of the American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 213

MEAN SALARIES OF FULL-TIME EMPLOYED Ph. D. ACADEMIC CHEMISTS* ON 9-10 MONTH CONTRACTS BY ACADEMIC RANK AND YEARS SINCE B. S., 1990

YEARS SINCE B. S.	ACADEMIC RANK		
	Professor	Associate Professor	Assistant Professor
5-9	$46,872	$36,133	$33,141
10-14	47,688	38,413	31,776
15-19	50,437	38,165	30,553
20-24	50,317	38,660	
25-29	52,778	40,466	
30-34	57,832	42,196	
35-39	61,562		
> = 40	73,339		
TOTAL	53,571	38,388	32,416

*Includes only members of the American Chemical Society.
Blanks indicate fewer than 15 respondents.

TABLE 214

MEDIAN AND MEAN SALARIES OF Ph. D. ACADEMIC CHEMISTS* ON 9-10 MONTH CONTRACTS EMPLOYED FULL-TIME IN COLLEGES AND UNIVERSITIES BY WORK SPECIALTY AND ACADEMIC RANK, 1990

SPECIALTY	ACADEMIC RANK					
	PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	Median	Mean	Median	Mean	Median	Mean
Biochemistry	$54,000	$55,374	$38,000	$38,581	$33,000	$33,608
Biotechnology	56,000	59,305			39,000	39,853
General	43,000	43,265	34,309	35,864	27,850	28,273
Analytical	47,500	51,443	38,000	38,397	31,500	31,501
Environmental	58,000	57,936	44,000	44,652	38,745	38,895
Inorganic	50,551	52,747	38,000	38,696	32,000	32,091
Medicinal/Pharm.	58,900	60,049				
Materials Science	65,500	65,833				
Organic	50,810	53,237	36,396	37,100	31,000	31,443
Physical	52,000	54,432	39,123	39,422	32,000	32,622
Polymer	60,000	64,707				
Other Chemical Science	55,100	61,586				

* Includes only members of the American Chemical Society
Blanks indicate fewer than 15 respondents

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of the American Chemical Society's 1990 Survey of Salaries and Employment*, July 1990.

TABLE 215

MEDIAN AND MEAN SALARIES OF PH. D. ACADEMIC CHEMISTS* EMPLOYED FULL-TIME BY TYPE OF INSTITUTION, LENGTH OF CONTRACT AND RANK, 1990

TYPE OF INSTITUTION AND LENGTH OF CONTRACT	ACADEMIC RANK					
	PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	Median	Mean	Median	Mean	Median	Mean
BS-GRANTING						
9-10 Month	$44,000	$44,365	$34,000	$34,662	$29,000	$29,410
11-12 Month	53,639	54,747	37,500	39,576	28,150	28,346
MS-GRANTING						
9-10 Month	50,000	49,290	37,000	37,659	30,750	31,010
11-12 Month	62,122	62,240				
Ph. D.-Granting						
9-10 Month	58,275	61,967	41,395	41,593	35,000	35,260
11-12 Month	75,000	78,177	52,000	53,625	42,000	42,672
AA-GRANTING						
9-10 Month	44,000	44,336	35,000	37,497	27,776	28,385
MEDICAL SCHOOL						
11-12 Month	74,000	76,872	53,500	56,292	43,500	45,330

* Includes only members of the American Chemical Society.
Blanks indicate fewer than 15 respondents.

SOURCE: American Chemical Society, *Women Chemists 1990,* December 1990

TABLE 216

MEDIAN AND MEAN SALARIES OF PH. D. CHEMISTS* EMPLOYED FULL-TIME ON 9-10 MONTH CONTRACTS BY ACADEMIC RANK AND SEX, 1990
(Academic-Year Salaries Multiplied by 11/9)

ACADEMIC RANK	MEN			WOMEN		
	Number	Median	Mean	Number	Median	Mean
Professor	2,917	$64,766	$68,133	198	$60,000	$61,634
Associate Professor	918	48,000	48,978	181	45,739	46,052
Assistant Professor	800	39,715	40,328	246	37,564	38,455
Instructor	113	34,216	40,146	46	34,216	36,152
Research Associate	283	36,000	37,495	66	31,000	32,642
Other Non Faculty	132	42,500	46,016	48	33,320	37,407
No Ranks	84	47,254	47,036	13	44,158	43,625

SOURCE: American Chemical Society, *Salaries 1990 - Analysis of the American Chemical Society's 1990 Survey of Salaries and Employment,* July 1990.

TABLE 217

MEDIAN AND MEAN SALARIES OF PH. D. ACADEMIC CHEMISTS* EMPLOYED FULL-TIME ON 9-10 MONTH CONTRACTS BY GEOGRAPHIC REGION AND ACADEMIC RANK, 1990

GEOGRAPHIC REGION	FULL PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	Median	Mean	Median	Mean	Median	Mean
Pacific	$56,000	$59,274	$40,000	$39,842	$35,000	$34,513
Mountain	47,000	48,793	36,800	37,473	31,000	31,462
West North Central	46,033	49,028	34,500	34,726	30,000	30,111
West South Central	44,000	49,419	36,000	35,551	31,500	32,822
East North Central	50,000	52,464	37,100	37,944	30,974	32,120
East South Central	42,000	44,140	34,000	33,909	28,409	28,887
Middle Atlantic	54,000	57,506	40,000	40,439	32,742	33,189
South Atlantic	50,640	52,992	38,000	38,465	31,500	32,164
New England	55,000	58,147	43,000	43,351	35,000	35,213

* Includes only members of the American Chemical Society.

SOURCE: The American Mathematical Society *NOTICES*, Vol. 36, No. 9, November 1989 and Vol. 37, No. 9, November 1990

TABLE 218

NUMBER AND MEDIAN SALARY RANGES FOR MATHEMATICS FACULTY BY RANK AND TYPE OF INSTITUTION, 1990 - 91 AND 1989 - 90

TYPE OF INSTITUTION	RANK	1990 - 91		1989 - 90	
		NUMBER OF FACULTY	MEAN SALARY	NUMBER OF FACULTY	MEAN SALARY
Doctorate Granting Departments Group I*	Assistant Professor	186	$37,883	130	$36,628
	Associate Professor	267	47,354	196	42,825
	Professor	1,075	68,549	660	62,876
Doctorate Granting Departments Group II*	Assistant Professor	235	39,827	223	34,059
	Associate Professor	360	43,021	345	48,492
	Professor	727	59,732	679	57,162
Doctorate Granting Departments Group III*	Assistant Professor	460	34,977	490	33,607
	Associate Professor	522	40,737	524	37,588
	Professor	779	55,917	800	55,828
Doctorate Granting Departments Group IV*	Assistant Professor	162	35,883	150	36,380
	Associate Professor	158	45,118	150	43,677
	Professor	360	65,703	336	63,704
Doctorate Granting Departments Group V*	Assistant Professor	32	44,162	37	43,215
	Associate Professor	28	49,156	35	50,588
	Professor	72	69,801	106	69,959
Doctorate Granting Departments Group VI*	Assistant Professor	77	39,475	94	34,643
	Associate Professor	122	56,506	189	44,403
	Professor	185	68,960	307	56,391
Masters Degree Granting Department	Assistant Professor	873	34,517	714	32,200
	Associate Professor	968	41,920	791	39,959
	Professor	1,035	52,736	928	49,172
Bachelor's Degree Granting Department	Assistant Professor	1,012	31,579	940	31,776
	Associate Professor	932	38,066	817	42,324
	Professor	873	46,405	793	48,073

* Group I and Group II include the leading departments of mathematics in the U.S. according to the 1982 assessment of Research-Doctorate Programs conducted by the Conference Board of Associated Research Councils in which departments were rated according to the quality of their graduate faculty. Group I is composed of 39 departments with scores in th 3.0 - 5.0 range. Group II is composed 43 departments with scores in the 2.0 - 2.9 range. Group III is composed of the remaining U.S. departments reporting a doctoral program. Group IV contains U.S. departments (or Programs) of statistics, Biostatistics and biometrics reporting a doctoral program. Group V contains U.S. departments (or programs) in applied mathematics/applied science. Group VI contains doctorate-granting departments (or programs) in the mathematical sciences in Canadian universities. Group M (Master's) contains U.S. departments granting a master's degree as the highest graduate degree. Group B (Bachelor's) contains U.S. departments granting a baccalaureate degree only.

SOURCE: American Institute of Physics, *1990 Salaries, Society Membership Survey,* Unpublished

TABLE 219

1990 SALARIES OF PH.D. PHYSICISTS* EMPLOYED IN FOUR-YEAR COLLEGES ON 9-10 MONTH CONTRACTS BY ACADEMIC RANK

ACADEMIC RANK	NUMBER	MEDIAN	MEAN
Professor	88	$46,600	$47,100
Associate Professor	36	39,000	39,800
Assistant Professor	45	31,700	31,800

*Includes only members of the AIP member societies.

TABLE 220

1990 SALARIES OF PH.D. PHYSICISTS* EMPLOYED IN UNIVERSITIES BY RANK AND LENGTH OF CONTRACT

ACADEMIC RANK	9-10 MONTH			11-12 MONTH		
	NO.	MEDIAN	MEAN	NO.	MEDIAN	MEAN
Professor	709	$59,500	$61,900	237	$80,000	$79,900
Associate Professor	262	42,000	43,100	84	58,000	61,200
Assistant Professor	194	36,000	36,900	70	46,000	49,700
Postdoctorates				194	27,000	27,000
Other Research Staff				174	42,000	46,000

* Includes only members of the AIP member societies.

SOURCE: American Psychological Association, *1990-1991 Faculty Salaries in Graduate Departments of Psychology*, February 1991

TABLE 221

NUMBER, MEDIAN AND MEAN STARTING SALARY FOR NEW PH. D. FACULTY IN GRADUATE DEPARTMENTS OF PSYCHOLOGY BY TYPE OF DEPARTMENT, 1990-91

TYPE OF DEPARTMENT	Number	Median Salary	Mean Salary
DOCTORAL PUBLIC	85	$32,000	$31,940
PRIVATE	28	33,000	32,179
TOTAL	113	32,000	31,999
MASTERS PUBLIC	48	28,966	29,751
PRIVATE	14	29,500	29,652
TOTAL	62	29,000	29,728

SOURCE: American Psychological Association, *1990-91 Faculty Salaries in Graduate Departments of Psychology*, February 1991.

TABLE 222

NUMBER, MEAN AND MEDIAN 9-10 MONTH SALARIES OF FULL-TIME FACULTY IN U.S. DOCTORAL DEPARTMENTS OF PSYCHOLOGY* BY GEOGRAPHIC REGION, RANK AND YEARS IN RANK, 1990-91

GEOGRAPHIC REGION	ACADEMIC RANK AND YEARS IN RANK									
	FULL PROFESSOR				ASSOCIATE PROFESSOR			ASSISTANT PROFESSOR		ALL RANKS
	12 + Years	6-11 Years	3-5 Years	<3 Years	6 + Years	3-5 Years	<3 Years	3 + Years	<3 Years	All Years
NEW ENGLAND										
(15 Depts.) No.	86	41	12	19	41	20	26	24	42	314
Mean	$70,108	$59,643	$54,226	$52,939	$47,672	$42,676	$40,341	$36,956	$35,548	$52,476
Median	70,394	58,490	51,770	50,763	47,410	42,192	40,000	37,500	36,025	49,499
MIDDLE ATLANTIC										
(42 Depts.) No.	226	89	66	69	148	48	57	92	82	884
Mean	69,519	66,039	59,483	57,535	49,977	46,638	43,924	37,739	35,518	54,596
Median	68,892	66,675	58,408	56,886	49,340	45,535	44,219	37,273	34,925	53,325
EAST SOUTH CENTRAL										
(20 Depts.) No.	80	34	23	16	38	22	25	26	49	315
Mean	54,758	58,547	53,671	49,409	37,758	38,126	37,451	34,254	31,436	44,773
Median	52,553	54,388	50,004	47,748	36,888	37,604	36,843	34,577	31,000	41,673
WEST SOUTH CENTRAL										
(22 Depts.) No	90	55	25	27	75	25	32	48	69	452
Mean	56,380	54,019	50,977	52,064	37,954	40,061	38,084	36,282	31,581	44,015
Median	54,502	49,272	51,600	51,125	37,050	38,331	37,483	35,000	30,889	40,178
SOUTH ATLANTIC										
(41 Depts.) No	193	114	52	57	148	70	63	83	103	887
Mean	63,317	60,421	57,355	49,890	42,640	42,403	40,152	35,293	33,461	48,742
Median	62,459	59,718	54,650	47,500	42,382	42,850	39,025	35,000	33,000	45,100
EAST NORTH CENTRAL										
(41 Depts.) No.	241	120	49	53	124	43	71	99	125	931
Mean	61,905	58,811	56,186	50,621	44,024	44,439	41,525	35,743	33,438	48,996
Median	60,600	55,864	54,300	49,120	43,128	44,219	40,000	35,391	33,000	46,200
WEST NORTH CENTRAL										
(20 Depts.) No.	102	48	28	16	44	30	23	39	60	391
Mean	57,947	54,346	53,433	56,278	42,564	42,102	40,425	35,335	33,474	47,051
Median	56,100	52,959	54,600	53,950	42,220	42,408	39,900	35,931	33,435	43,500
MOUNTAIN										
(20 Depts.) No	107	53	20	41	47	14	25	34	53	397
Mean	57,615	55,347	50,781	52,483	39,174	39,484	38,846	35,275	34,311	47,204
Median	56,946	53,000	49,626	52,800	39,755	38,891	38,100	34,635	33,500	45,598
PACIFIC										
(22 Depts.) No.	150	83	35	30	45	37	40	44	49	518
Mean	71,401	60,227	56,672	51,070	42,053	45,381	41,709	37,394	35,526	54,256
Median	69,383	58,300	58,030	48,790	42,198	46,114	42,800	37,800	36,000	53,403

*Includes departments, schools, Interdisplinary programs, or other academic units offering a graduate degree in one or more areas of psychology. Total for all ranks includes statistics for Lecturers / Instructors, who are not reported separetely because of insuficient data.

SOURCE: American Psychological Association, *1990-1991 Faculty Salaries in Graduate Departments of Psychology*, February 1991

TABLE 223

NUMBER, MEAN, AND MEDIAN 9-MONTH SALARIES OF FULL-TIME FACULTY IN U.S. MASTER'S DEPARTMENTS OF PSYCHOLOGY* BY GEOGRAPHIC REGION, RANK AND YEARS IN RANK, 1990-91

GEOGRAPHIC REGION	ACADEMIC RANK AND YEARS IN RANK									
	FULL PROFESSOR				ASSOCIATE PROFESSOR			ASSISTANT PROFESSOR		ALL RANKS
	12 + Years	6-11 Years	3-5 Years	<3 Years	6 + YEARS	3-5 Years	<3 Years	3 + Years	<3 Years	All Years
ALL REGIONS (103 Depts.) No.	250	218	108	73	177	70	104	99	229	1,335
Mean	$51,434	$48,593	$45,433	$44,101	$40,437	$37,769	$36,136	$32,341	$30,662	$41,613
Median	51,036	47,376	44,818	43,000	40,130	36,777	35,222	31,350	30,000	40,640
MIDDLE ATLANTIC (14 Depts.) No.	30	18	12	8	25	10	8	12	20	144
Mean	56,667	50,751	48,505		41,564	37,056		34,184	30,777	43,823
Median	56,000	51,551	48,721		43,350	36,902		33,970	32,200	43,543
EAST NORTH CENTRAL (12 Depts.) No.	34	34	17	14	28	11	17	12	41	209
Mean	51,110	45,285	41,956	41,471	40,983	35,526	35,341	32,603	30,151	40,039
Median	49,356	44,010	40,900	41,080	40,022	35,387	33,777	31,147	29,556	39,578
WEST NORTH CENTRAL (11 Depts.) No.	12	19	9	5	7	11	13	14	28	118
Mean	52,641	45,197				37,107	35,098	30,694	29,909	38,411
Median	52,452	46,000				37,277	34,000	30,229	29,104	37,214
SOUTH ATLANTIC (20 Depts.) No.	33	29	18	16	44	12	20	19	43	235
Mean	49,965	50,958	46,366	46,362	41,497	40,363	33,873	31,895	30,267	40,958
Median	48,430	49,638	46,670	43,101	41,060	38,710	32,816	32,000	29,500	40,300
EAST SOUTH CENTRAL (11 Depts.) No.	15	29	11	9	18	9	6	12	30	140
Mean	45,345	44,245	40,734		36,654			30,754	28,702	36,986
Median	45,312	44,900	39,710		36,210			30,560	29,100	36,961
WEST SOUTH CENTRAL (12 Depts.) No.	20	17	11	7	15	5	7	4	21	107
Mean	44,631	43,711	43,427		36,307				30,901	38,712
Median	42,248	42,968	40,965		35,845				29,500	38,800
PACIFIC (13 Depts.) No.	86	54	21	9	21	9	28	13	28	272
Mean	53,176	54,077	51,364		40,614		40,202	33,879	35,277	47,419
Median	58,116	58,116	55,464		37,455		40,224	33,500	36,144	48,023

*Includes departments, schools, interdisplinary programs, or other academic units offering a graduate degree in one or more areas of psychology. Total for all ranks includes statistics for Lecturers/Instructors, who are not reported separately because of insufficient data.

NOTE: Blanks indicate insufficient data.

SOURCE: American Psychological Association, *1990-1991 Faculty Salaries in Graduate Departments of Psychology*. February 1991

TABLE 224

NUMBER, MEAN, AND MEDIAN 9-MONTH SALARIES OF FULL-TIME DOCTORAL FACULTY IN U.S. DOCTORAL DEPARTMENTS OF PSYCHOLOGY* BY TYPE OF DEPARTMENT, RANK AND YEARS IN RANK, 1990-91

TYPE OF DEPARTMENT	ACADEMIC RANK AND YEARS IN RANK									
	FULL PROFESSOR				ASSOCIATE PROFESSOR			ASSISTANT PROFESSOR		ALL RANKS
	12 + Years	6-11 Years	3-5 Years	<3 Years	6 + YEARS	3-5 Years	<3 Years	3 + Years	<3 Years	All Years
Psychology (159 Depts.) No.	1,023	506	250	251	537	240	266	388	488	3,981
Mean	$65,171	$59,979	$56,703	$53,309	$43,880	$43,413	$41,260	$36,365	$33,969	$50,576
Median	63,000	58,300	54,242	52,134	43,200	43,052	40,066	35,978	33,866	47,700
Educational/Counseling/ School Psychology (57 Depts.) No.	212	86	35	37	123	39	50	67	97	751
Mean	56,167	55,116	50,719	53,335	43,027	41,722	38,503	35,236	32,247	46,436
Median	54,662	53,559	49,251	52,150	42,736	42,165	37,324	33,815	31,800	44,873
Human Development (10 Depts.) No.	19	20	17	16	17	9	20	18	28	164
Mean	69,174	61,854	56,883	57,209	43,671		40,773	37,287	34,814	48,9[illegible]
Median	69,136	59,500	55,692	58,003	40,527		39,976	36,359	31,794	44,950
Professional School (14 Depts.) No.	20	25	7	22	30	17	26	16	18	
Mean	58,989	57,766		41,193	42,169	40,514	39,953	33,751	33,350	
Median	51,594	50,744		40,950	40,271	39,614	41,018	33,236	32,154	

NOTE: Total for all ranks includes statistics for Lecturers/Instructors, who are not reported separately because of insufficient data. Blanks indicate insufficient data.

SOURCE: American Psychological Association, *1990-1991Faculty Salaries in Graduate Departments of Psychology,* February 1991

TABLE 225

NUMBER, MEDIAN AND MEAN 9-10 MONTH SALARIES OF FULL-TIME DOCTORAL FACULTY IN U.S. DEPARTMENTS OF PSYCHOLOGY BY RANK, TYPE OF DEPARTMENT AND YEARS IN RANK, 1990-91

YEARS IN RANK AND TYPE OF DEPARTMENT	Full Professor			Associate Professor			Assistant Professor		
	No.	Median	Mean	No.	Median	Mean	No.	Median	Mean
AT LEAST 12 YEARS									
Doctoral	1,275	$61,888	$63,624						
Master's	270	51,252	51,635						
6-11 YEARS									
Doctoral	637	58,000	59,294						
Master's	232	47,673	48,813						
AT LEAST 6 YEARS									
Doctoral				710	$43,028	$43,674			
Master's				201	41,200	41,146			
3-5 YEARS									
Doctoral	310	54,089	55,859	309	42,850	43,063			
Master's	111	44,600	45,313	74	36,974	38,004			
AT LEAST 3 YEARS									
Doctoral							489	$35,656	$36,159
Master's							112	31,975	32,726
LESS THAN 3 YEARS									
Doctoral	328	51,811	52,692	362	40,000	40,759	632	33,000	33,732
Master's	85	43,280	44,863	120	36,000	36,595	252	30,000	30,845
ALL YEARS									
Doctoral	2,550	58,000	60,192	1,381	42,255	42,773	1,121	34,300	34,791
Master's	698	48,023	48,867	395	38,331	39,175	364	30,856	31,424

NOTE: Blanks indicate insufficient data.

SOURCE: American Psychological Association, *Salaries in Psychology 1989*. February 1990.

TABLE 226

MEDIAN AND MEAN 9-10 MONTH SALARIES FOR DOCTORAL-LEVEL PSYCHOLOGISTS + IN FACULTY POSITIONS BY EMPLOYMENT SETTING AND ACADEMIC RANK, 1989

EMPLOYMENT SETTING	ACADEMIC RANK					
	FULL PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
University Psychology Department	$51,000	$52,178	$37,000	$37,547	$30,000	$31,114
University Education Department	49,091	50,544	39,000	40,508	31,955	32,091
University Business School or Department	65,000	63,539	47,000	55,500	43,000	41,049
University Other Academic Department	50,000	52,730	40,000	40,640	33,500	33,505
Four Year College Psychology Department	41,727	43,753	31,000	31,934	28,000	29,314
Two Year College	45,000	43,777	43,000	42,939		
Medical School Psychiatry Department*	68,727	67,871	44,591	49,352	33,136	35,710
Medical School Other Department*	40,909	44,663	37,636	38,782		

+ Members of the American Psychological Association.

* Salaries in these settings are often paid on as 11-12 month basis. Therefore, the 9-10 month salaries reported here may be converted to 11-12 month salaries by multiplying by 11/9.

Note: Blanks indicate fewer than 5 respondents.

SOURCE: American Geological institute, *1990-91 Geoscience Faculty Salary Survey*, May 1991

TABLE 227

SALARIES OF GEOSCIENCE FACULTY BY RANK, 1990-91

RANK	Number	1990-91		1989-90 Mean
		Median	Mean	
Assistant Professor	195	$35,733	$34,785	$33,558
Associate Professor	278	43,710	43,101	41,073
Professor	572	56,484	58,091	56,169
All Ranks	1,045	48,898	49,754	48,058
Females (All Ranks)	89	37,500	39,629	38,368

SOURCE: Engineering Manpower Commission of American Ass'n. of Engineering Socieites, *Salaries of Engineers in Education, 1990*.

TABLE 228

NUMBER AND MEDIAN ANNUAL SALARIES OF FACULTY IN ALL SCHOOLS ON ALL CONTRACTS, BY RANK AND SELECTED YEARS SINCE BACCALAUREATE, 1990

RANK	YEARS SINCE BACCALAUREATE									
	5	7	9-11	15-17	18-20	21-23	24-26	27-29	33+	OVERALL
Professors	$	$	(23) $48,350	(134) $58,550	(303) $61,000	(458) $62,200	(603) $62,650	(781) $62,700	(1,959) $62,400	(5,122) $62,150
Associate Professors			(166) 50,050	(522) 49,250	(500) 48,800	(417) 48,300	(356) 47,750	(261) 47,200	(537) 44,800	(3,426) 48,050
Assistant Professors	(94) 44,400	(217) 43,850	(801) 43,150	(333) 42,000	(220) 41,550	(112) 41,150	(81) 40,850	(52) 40,550	(220) 40,100	(3,320) 42,900
Instructors	(26) 30,300	(34) 31,000	(65) 32,050	(51) 34,100	(47) 35,100	(43) 36,100	(43) 37,050	(41) 38,000	(117) 40,850	(681) 34,600
Administrators		(11) 26,950	(20) 31,950	(51) 45,800	(84) 54,800	(77) 64,850	(143) 75,050	(157) 83,400	(276) 73,950	(1,018) 72,500
Researchers	(53) 32,000	(69) 33,750	(184) 36,500	(102) 42,250	(98) 45,150	(72) 47,950	(56) 50,500	(46) 52,650	(100) 55,400	(1,177) 39,050

Blanks indicate too few respondents.

SOURCE: Engineering Manpower Commission of American Ass'n. of Engineering Socieites, *Salaries of Engineers in Education, 1990.*

TABLE 229

NUMBER OF MEDIAN ANNUAL SALARIES OF FACULTY IN ALL ENGINEERING SCHOOLS ON ALL CONTRACTS, BY RANK AND SELECTED YEARS SINCE BACCALAUREATE, 1990

RANK	YEARS SINCE BACCALAUREATE									
	7	9-11	12-14	15-17	18-20	21-23	24-26	27-29	33 +	OVERALL
Professors	$	(22) $49,300	(58) $55,100	(129) $59,200	(281) $61,650	(423) $62,850	(579) $63,250	(742) $63,250	(1,887) $62,750	(4,883) $62,650
Associate Professors		(159) 50,200	(405) 50,100	(499) 49,850	(474) 49,550	(365) 49,150	(327) 48,650	(226) 48,100	(474) 45,550	(3,145) 48,800
Assistant Professors	(209) 43,850	(772) 43,550	(551) 43,300	(298) 43,050	(181) 42,850	(87) 42,700	(56) 42,600	(38) 42,500	(184) 42,400	(3,019) 43,450
Instructors	(29) 31,500	(59) 32,650	(43) 33,850	(33) 35,000	(32) 36,100	(27) 36,950	(24) 37,700	(21) 38,200	(75) 38,900	(479) 34,300
Administrators	(11) 26,150	(20) 31,200	(29) 37,450	(48) 45,250	(80) 54,650	(73) 65,350	(132) 76,300	(144) 85,500	(259) 74,950	(956) 73,700
Researchers	(69) 33,750	(184) 36,550	(144) 39,450	(101) 42,400	(97) 45,350	(69) 48,150	(55) 50,750	(46) 52,900	(99) 55,600	(1,166) 39,200

NOTE: Blanks indicate too few respondents.

TABLE 230

NUMBER AND MEDIAN ANNUAL SALARIES OF FACULTY IN TECHNOLOGY SCHOOLS ON ALL CONTRACTS, BY RANK AND SELECTED YEARS SINCE BACCALAUREATE, 1990

RANK	YEARS SINCE BACCL-AUREATE								
	9-11	12-14	15-17	18-20	21-23	24-26	27-29	33 +	OVERALL
Professors	$	$	$	(22) $43,650	(35) $45,950	(24) $46,150	(39) $45,800	(72) $45,200	(239) $45,100
Associate Professors				(26) 37,750	(52) 38,400	(29) 38,850	(35) 39,100	(63) 38,150	(281) 38,000
Assistant Professors	(29) 32,150	(36) 32,650	(35) 33,150	(39) 33,550	(25) 33,850	(25) 34,100	(14) 34,300	(36) 34,300	(301) 33,200
Instructors		(18) 29,900	(18) 32,300	(15) 34,650	(16) 36,750	(19) 38,550	(20) 39,900	(42) 39,300	(202) 34,900

Note: Blanks indicate too few respondents.

SOURCE: Engineering Manpower Commission of American Ass'n. of Engineering Societies, *Salaries of Engineers in Education, 1990*

TABLE 231

MEDIAN AND MEAN SALARIES OF ENGINEERING FACULTY BY RANK, TYPE OF SCHOOL AND LENGTH OF CONTRACT, 1990

RANK	ALL SCHOOLS			ENGINEERING SCHOOLS			TECHNOLOGY SCHOOLS	
	All Contracts	9- Month Contract	12- Month Contract	All Contracts	9- Month Contracts	12- Month Contracts	All Contracts	9- Month Contracts
Professor								
Median	$62,150	$61,800	$78,800	$62,650	$62,250	$78,800	$45,100	$45,100
Mean	64,200	63,500	80,250	65,050	64,350	80,250	46,900	46,900
Associate Professor								
Median	48,050	47,550	62,050	48,800	48,300	62,200	38,000	38,000
Mean	48,350	47,600	61,450	49,250	48,450	61,750	38,650	38,700
Assistant Professor								
Median	42,900	42,600	54,000	43,450	43,150	55,450	33,200	33,250
Mean	43,000	42,450	52,550	44,000	43,400	53,500	33,150	33,200
Instructor								
Median	34,600	32,700	38,450	34,300	31,700		34,900	34,400
Mean	36,100	34,800	40,950	36,250	34,600		35,650	35,200
Researcher								
Median	39,050		39,350	39,200		39,500		
Mean	41,800		42,000	41,850		42,050		
Administrator								
Median	72,500		72,400	73,700		73,650		
Mean	70,150		69,500	71,000		70,300		

NOTE: Blanks indicate too few respondents.

SOURCE: American Institute of Chemical Engineers, *1989-90 Survey of Faculty Salaries, Chemical Engineering Departments,* Prepared by Robert F. Furgason, November 6,1989

TABLE 232

NUMBER AND AVERAGE SALARIES OF FACULTY IN CHEMICAL ENGINEERING DEPARTMENTS BY GEOGRAPHIC REGION, 1989-90

GEOGRAPHIC REGION	Professor		Associate Professor		Assistant Professor		Instructor		Department Head		All Ranks Except Instr.	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
New England	38	$66,659	18	$51,329	15	$44,087	1	$34,916	7	$65,883	71	$58,004
Middle Atlantic	78	65,491	46	48,162	32	43,724	3	28,312	14	70,006	156	55,916
East North Central	80	69,076	43	51,224	30	45,031			13	70,834	153	59,344
West North Central	62	65,920	27	48,655	21	46,524			11	73,427	110	57,979
South Atlantic	61	66,144	43	48,828	35	44,313	1	33,595	13	67,450	139	55,290
East South Central	34	54,492	14	47,176	12	40,550			7	60,158	60	49,996
West South Central	55	64,341	29	47,087	13	45,853	6	25,024	9	71,268	97	56,705
Mountain	46	58,311	24	45,317	25	40,455			9	62,507	95	50,287
Pacific	59	74,674	16	50,625	20	45,719	2	42,200	6	69,572	95	64,527
All Regions	513	65,833	260	48,765	203	44,078	13	29,846	89	68,393	976	56,757

NOTE: All Salaries are reported on a 9-month academic year; to convert to a calendar year equivalent, multiply by 1.22.

SOURCE: American Association of Colleges of Pharmacy, *Annual Survey of Faculty Salaries, 1989-90*

TABLE 233

NUMBER AND AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY BY APPOINTMENT YEAR, DISCIPLINE, AND SEX, 1989-90

DISCIPLINE & SEX	CALENDAR YEAR		ACADEMIC YEAR	
	No.	Salary	No.	Salary
Biological Sciences	26	$48,871	21	$40,655
Male	19	51,555	16	42,003
Female	7	48,871	5	36,342
Continuing Education	25	51,752		
Male	22	53,557		
Female	3			
Medicinal/Pharm./Chem./Pharmacognsy	344	61,246	101	48,097
Male	315	62,508	98	48,389
Female	29	47,529	3	
Library/Ed Resources	12	32,396		
Male	8	31,703		
Female	4			
Pharmacology	227	56,198	101	44,349
Male	195	57,964	88	45,935
Female	32	45,437	13	37,540
Pharmaceutics/Pharmacy	303	58,831	90	44,349
Male	267	60,560	73	45,935
Female	36	46,003	17	37,540
Pharmacy Administration	199	53,545	39	44,362
Male	166	55,075	35	44,039
Female	33	45,853	4	
Pharmacy Practice	805	47,456	74	40,438
Male	541	50,041	49	43,256
Female	264	42,158	25	34,914
Other	42	51,676	36	36,726
Male	31	56,405	21	39,371
Female	11	38,350	15	33,023

NOTE: Blanks indicate isnufficient data.

SOURCE: American Association of Colleges of Pharmacy, *Annual Survey of Faculty Salaries, 1989-90.*

TABLE 234

AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY BY RANK, YEARS IN RANK AND SEX, 1989-90

RANK & SEX	YEARS IN RANK						TOTAL
	0-1 Yr.	2-5 Yrs.	6-10 Yrs.	11-15 Yrs.	16-20 Yrs.	Over 20 Years	
CALENDAR YEAR							
Dean	$76,102	$84,496	$86,719	$94,784	$	$106,988	$87,295
Male	76,102	84,879	86,719	94,784		106,988	87,502
Assistant/Associate Dean	59,379	63,483	61,358	68,031	70,225	84,848	64,405
Male	62,356	63,718	63,622	68,031	70,225	84,848	65,721
Female							48,460
Professor	62,198	61,738	65,893	69,141	70,619	75,262	66,478
Male	63,644	61,741	66,164	69,596	70,619	75,271	66,908
Female	46,288	61,701	59,114				58,306
Associate Professor	49,736	50,327	52,231	53,059	52,910	48,285	51,054
Male	50,291	51,181	52,300	53,169	52,910	47,201	51,569
Female	48,014	46,929	51,628	52,088			48,407
Assistant Professor	40,800	42,786	43,738	44,533	52,918		42,318
Male	41,107	43,543	44,041	44,792	52,918		42,960
Female	40,366	41,370	43,173				41,208
Instructor	35,580	34,313	35,979	37,337	41,013	38,210	35,948
Male	35,823	38,157		40,428			38,286
Female	35,424	31,750					33,961
Lecturer	35,732	54,319	43,259				45,086
Male	34,582						46,727
Female							42,420
ACADEMIC YEAR							
Professor	51,711	52,255	50,873	54,337	56,006	55,223	53,100
Male	52,340	52,966	50,806	54,623	56,006	55,223	53,384
Female							47,453
Associate Professor	41,054	41,241	42,117	49,713	43,025		42,197
Male	41,120	41,449	42,387	49,895	44,748		42,543
Female	40,955	40,108	39,739				40,498
Assistant Professor	35,734	35,112	35,786				35,484
Male	36,179	35,687	35,348				35,829
Female	35,012	33,626					34,713
Instructor		29,253					28,820
Male							28,763
Female							28,876

NOTE: Blanks indicate insufficient data.

SOURCE: American Association of Colleges of Pharmacy, *Annual Survey of Faculty Salaries, 1989-90*

TABLE 235

NUMBER AND AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY ON CALENDAR YEAR APPOINTMENTS BY AGE, DISCIPLINE, AND SEX, 1989-90

DISCIPLINE & SEX	AGE				TOTAL	
	30-39	40-49	50-59	60-69	Number	Salary
Biological Sciences						
Male	$38,538	$62,267	$	$	19	$51,555
Female					7	41,585
Medicinal/Pharm./Chem./Pharmacognsy						
Male	47,388	62,318			315	62,508
Female	42,660	48,904			29	47,529
Pharmacology						
Male	45,663	59,160	62,843	69,250	195	57,964
Female	42,314	47,494			32	45,437
Pharmaceutics/Pharmacy						
Male	47,724	58,826	72,532	71,640	266	60,600
Female	44,916	42,043		55,591	36	46,003
Pharmacy Administration						
Male	46,919	57,574			166	55,075
Female	43,693	50,038			33	45,853
Pharmacy Practice						
Male	45,997	56,623	54,101	56,698	538	50,133
Female	41,865	47,079	36,390		264	42,158
Other						
Male	48,807	52,484	64,303	71,532	31	56,405
Female		39,340			11	38,350

NOTE: Blanks indicate isnufficient data.

TABLE 236

NUMBER AND AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY BY APPOINTMENT YEAR, DEGREE LEVEL AND SEX, 1989 - 90

DEGREE & SEX	CALENDAR YEAR		ACADEMIC YEAR	
	No.	Salary	No.	Salary
B.S.	66	$38,585	18	$29,432
Male	37	40,310	10	29,788
Female	29	36,385	8	28,988
M.S.	151	45,591	32	35,043
Male	96	49,650	20	35,704
Female	55	38,505	12	33,941
Pharm. D.	655	47,354	55	43,041
Male	444	49,539	39	45,684
Female	211	42,754	16	36,601
Ph. D.	1,083	58,676	347	45,377
Male	960	60,191	303	46,311
Female	123	46,851	44	38,943
Other	30	57,208	9	52,399
Male	24	59,742	8	52,280
Female	6	47,073	1	

NOTE: Blanks indicate insufficient data.

SOURCE: The American Physiological Society, *The Physiologist*. Vol. 33, No. 3, June 1990

TABLE 237

NUMBER AND MEAN SALARY OF PHYSIOLOGY FACULTY BY RANK, TYPE OF INSTITUTION AND SEX, 1989 - 1990

Rank & Type of Institution	Number of Faculty	Salary	% Change from 1988-89
CHAIRMAN All Schools	98	$97,259	6.7
Medical Public	65	97,929	4.8
Medical Private	26	99,828	5.7
Nonmedical	7	81,492	13.6
PROFESSORS All Schools	550	70,351	3.1
Medical Public	394	68,698	1.4
Medical Private	121	80,596	11.2
Nonmedical	35	69,372	9.5
Women	39	72,097	5.0
ASSOCIATE PROFESSORS All Schools	404	50,977	2.3
Medical Public	272	51,900	4.3
Medical Private	102	54,892	7.5
Nonmedical	30	52,614	8.1
Women	63	51,187	4.0
ASSISTANT PROFESSORS All Schools	318	41,216	5.5
Medical Public	182	42,079	7.7
Medical Private	122	41,973	6.2
Nonmedical	14	40,787	6.5
Women	75	42,320	10.2
INSTRUCTORS All Schools	49	28,344	5.1
Medical Public	26	28,474	4.2
Medical Private	23	28,198	6.9
Women	18	25,868	0.7

SOURCE: The American Physiological Society, *The Physiologist*. Vol. 33, No. 3, June 1990

TABLE 238

STARTING MEAN SALARIES OF PHYSIOLOGY FACULTY BY TYPE OF SCHOOL AND ACADEMIC RANK, 1989 - 1990

TYPE OF SCHOOL	ACADEMIC RANK				
	Chariman	Professor	Associate Professor	Assistant Professor	Instructor
ALL SCHOOLS	$97,259	$70,351	$50,977	$41,216	$28,344
Medical Public	97,929	68,698	51,900	42,079	28,474
Medical Private	99,828	80,596	54,892	41,973	28,198
Nonmedical	81,492	69,372	52,614	40,787	

Blanks indicate no data

TABLE 239

NUMBER AND MEAN SALARY OF PHYSIOLOGY FACULTY BY RANK, AND YEARS AT POSITION, 1989 - 1990

YEARS AT POSITION	ACADEMIC RANK							
	CHAIRMAN		PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	No. of Faculty	Salary	No. of Faculty	Salary	No. of Faculty	Salary	No. of Faculty	Salary
0-5	40	$89,671	164	$69,016	229	$51,727	278	$40,788
6-10	23	99,095	118	69,950	98	52,497	26	46,702
11-15	18	102,874	114	73,128	50	21,088	6	46,225
16-20	11	105,445	88	78,092	20	58,452	4	38,240
21-25			55	84,646	5	49,848	4	45,477
26 +	5	106,755	9	73,484	2	63,643		

Blanks indicate no data

SOURCE: The American Physiological Society, *The Physiologist*. Vol. 33, No. 3, June 1990

TABLE 240

NUMBER AND SALARIES OF PHYSIOLOGY FACULTY BY RANK, AND GEOGRAPHIC REGION, 1990

RANK	GEOGRAPHIC REGION			
	Northeast	Midwest	South	West
CHAIRMAN				
Number of Faculty	19	26	31	15
Salary	$105,055	$96,300	$99,267	$97,719
PROFESSOR				
Number of Faculty	115	136	142	111
Salary	82,804	71,502	71,062	73,642
ASSOCIATE PROFESSOR				
Number of Faculty	84	113	138	38
Salary	56,645	52,340	51,829	53,382
ASSISTANT PROFESSOR				
Number of Faculty	75	96	94	29
Salary	42,514	43,449	40,822	43,848
INSTRUCTOR				
Number of Faculty	18	6	16	5
Salary	28,151	30,091	26,692	33,156

SOURCE: American Political Science Association, *1989-90 APSA Survey of Departments, 1990*

TABLE 241

NUMBER AND MEDIAN SALARY RANGES OF FULL-TIME FACULTY MEMBERS IN POLITICAL SCIENCE DEPARTMENTS BY RANK AND SEX, 1989 - 90

RANK	MEN		WOMEN	
	Number	Salary	Number	Salary
Professor	2,107	$51,000-$53,499	166	$46,000-$48,499
Associate Professor	1,208	37,000-37,999	249	37,000-37,999
Assistant Professor	906	30,000-30,999	299	29,000-29,999
Instructors	174	25,000-25,999	80	25,000-25,999

SOURCE: American Assembly of Collegiate Schools of Business, *1990-91 Salary Survey*, December 1990

TABLE 242

MEAN ANNUAL SALARIES OF BUSINESS FACULTY IN AACSB* MEMBER SCHOOLS BY RANK AND SEX, 1990-91

RANK	TOTAL FACULTY		WOMEN FACULTY	
	Number Reporting	Mean Salary	Number Reporting	Mean Salary
Professor	7,515	$65,400	493	$58,100
Associate Professor	6,755	51,600	990	50,100
Assistant Professor	6,930	47,100	1,795	45,500
Instructor	2,008	32,100	858	29,300
New Doctorate	527	51,000	143	48,700
ABD	310	47,000	101	48,400

* American Assembly of Collegiate Schools of Business

SOURCE: American Assembly of Collegiate Schools of Business, *1990-91 Salary Survey*, December 1990

TABLE 243

MEAN SALARIES OF BUSINESS FACULTY IN AACSB* MEMBER SCHOOLS BY DISCIPLINE/FIELD AND RANK, 1990-91

DISCIPLINE / FIELD	Professor		Assoc. Professor		Ass't. Professor		Instructor		New Doctorate		ABD	
	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean
Accounting	1,319	$67,800	1,264	$53,500	1,477	$49,000	595	$32,500	67	$56,800	52	$51,600
Economics	1,046	60,800	817	46,000	694	40,900	133	29,000	50	42,000	33	36,900
Finance	998	70,700	884	55,900	995	53,200	161	33,600	97	57,000	55	51,100
Management	753	62,100	681	50,000	638	45,100	240	32,000	44	47,900	39	42,300
Marketing	937	66,200	794	53,400	876	47,900	209	31,500	77	50,700	48	47,000
Quantitative Methods	455	65,900	363	51,000	262	45,300	90	32,300	24	49,700	16	43,400
Business Education/Business Communication	172	50,100	144	41,800	148	35,000	111	27,100	4	35,000	2	33,800
Business Law/Legal Environment	218	58,600	307	44,600	298	38,300	62	32,300	20	39,800		
Computer Information Systems/ Management Info. Systems	444	64,100	542	51,500	657	47,400	245	32,600	60	51,600	22	49,400
Production/Operations Management / Managerial Economics	260	67,700	261	55,100	277	49,800	35	35,100	23	50,400	8	48,600
Behavioral Science/ Organizational Behavior	312	69,800	272	54,700	203	49,100	28	34,100	15	51,700	13	46,000
International Business	88	66,500	59	54,600	61	48,700	19	40,600	5	49,000	6	49,800
Personnel	139	63,500	122	50,400	75	45,600	7	33,500	11	46,800		
Policy and Control	161	66,200	130	52,900	146	48,900	21	39,900	16	52,300	8	48,900
Other	213	66,800	155	51,500	163	45,500	52	33,300	14	47,500	8	51,800
All Combined	7,515	65,400	6,755	51,600	6,930	47,100	2,008	32,100	527	51,000	310	47,000

* American Assembly of Collegiate Schools of Business

SOURCE: American Assembly of Collegiate Schools of Business, *1990-91 Salary Survey*, December 1990

TABLE 244

NUMBER AND MEAN 12-MONTH SALARIES OF ADMINISTRATIVE PERSONNEL IN AACSB*-MEMBER SCHOOLS BY TYPE OF INSTITUTION AND ADMINISTRATIVE POSITION, 1990-91

ADMINISTRATIVE POSITION	PUBLIC		PRIVATE		ACCREDITED		NON-ACCREDITED		ALL COMBINED	
	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean
Dean	278	$86,700	142	$91,400	239	$98,600	181	$74,700	420	$88,300
Associate Dean	209	77,800	121	77,600	252	82,000	78	64,000	330	77,700
Assistant Dean	129	54,100	96	51,900	154	55,300	69	48,300	223	53,100
Accounting Dept. Chair	80	75,700	21	71,100	69	80,600	32	62,000	101	74,700
Director of School of Accounting	24	91,800	4	94,000	28	92,100			28	92,100
Academic Dept. Chair	440	72,000	122	68,300	417	74,800	145	60,800	562	71,200
Director of U.G. Program	39	48,200	24	49,000	54	49,300	9	43,700	63	48,500
Director of Graduate Program	55	63,500	38	52,600	67	61,200	26	53,300	93	59,000
Director of Placement	30	43,300	20	52,100	41	48,300	9	40,400	50	46,900
Director of Cooperative Program	6	42,500	6	48,100	6	49,400	6	41,300	12	45,300
Director of Executive Development	48	63,500	24	67,900	64	65,900	8	57,300	72	64,900
Director of Internship	8	43,600	4	48,500	8	50,100	4	35,500	12	45,200
Director of Research (Auber Unit)	32	68,900	3	55,800	31	69,100	4	45,100	35	67,700
Director of Research (Other)	22	65,300	4	58,100	16	67,500	10	56,900	26	64,200
Director of MBA/Masters Adm.	35	47,700	38	42,400	59	44,900	14	45,100	73	45,000
Small Business Admin. Director	58	44,500	6	46,400	40	46,400	24	41,700	64	44,700
Other	83	48,800	55	44,900	108	46,700	30	49,300	138	47,200

* American Assembly of Collegiate Schools of Business

SOURCE: College and Uninversity Personnel Association, *1990-91 Administrative Compensation Survey*

TABLE 245

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION AND CONTROL, 1990-91

POSITION	ALL INSTITUTIONS		MEDIAN SALARY	
	Number	Salary	Public	Private - Independent
Chief Executive Officer, System	237	$98,666	$99,113	$110,000
Chief Executive Officer, Single Institution	1,116	93,000	91,524	11,186
Executive Vice President	221	76,740	78,198	85,000
Chief Academic Officer	1,264	70,721	74,488	75,000
Chief Business Officer	1,103	67,760	70,000	73,000
Chief Administrative Officer	225	65,150	67,868	64,890
Chief Financial Officer	341	62,000	62,807	66,804
Chief Development Officer	806	61,175	61,000	68,678
Chief Public Relations Officer	683	42,298	47,554	42,525
Chief Planning Officer	192	62,250	62,713	62,125
Chief Planning & Budget Officer	98	68,709	70,131	64,916
Chief Personnel/Human Resources Officer	768	49,429	53,529	45,000
Chief Health Professions Officer	86	89,444	86,300	154,000
Chief Budgeting Officer	395	52,838	53,990	51,876
Systems Analyst I (highest level)	413	38,410	38,735	38,300
Systems Analyst II (lowest level)	272	30,782	31,355	28,360
Programmer Analyst I (highest level)	559	32,427	32,782	31,263
Programmer Analyst II (lowest level)	467	25,737	26,000	26,000
Director, Learning Resources Center	408	38,500	45,917	30,500
Director, Library Services	1,118	46,480	52,500	43,995
Director, Computer Center	660	53,500	56,568	53,750
Data Base Administrator	205	43,270	44,000	42,000
Director, Computer Center Operations/Academic	417	47,100	51,384	45,957
Director, Computer Center Operations/Administrative	400	46,503	50,218	46,398
Director, Educational Media Services	521	35,900	42,709	30,865
Chief, Enrollment Management	150	52,505	51,541	55,853
Director, Institutional Research	533	47,290	49,793	43,160
Director, Special & Deferred Gifts	162	44,335	49,444	46,965
Administrator, Grants & Contracts	434	46,027	48,731	40,000
Registrar	1,007	39,400	45,239	37,170
Director, Affirmative Action/Equal Employment	318	32,500	33,312	31,526
Manager, Employment	239	32,500	33,312	31,526
Comptroller	746	48,240	51,603	49,496
General Counsel	195	71,175	69,398	86,100
Director, Accounting	528	40,432	42,750	37,800
Director, Internal Audit	315	46,640	46,500	49,098
Bursar	385	36,206	39,425	34,000
Director, Church Relations	70	36,169	50,262	39,000
Director, Food Services	307	39,445	41,383	39,780
Chief, Physical Plant/Facilities Management Officer	1,093	48,200	51,271	48,201
Director, Student Activities	679	30,609	35,924	27,760
Director, Purchasing	703	38,326	40,873	36,150
Director, Bookstore	711	29,862	33,456	25,213
Director, Campus Security	793	36,764	40,656	34,930
Director, Telecommunications	302	45,000	46,783	47,655
Director, Information Systems	278	54,994	56,466	55,000
Director, News Bureau	245	31,745	34,761	30,000
Director, Auxiliary Services	327	46,980	48,048	45,165
Chief Student Affairs Officer	1,036	59,934	65,000	57,090
Chief Admissions Officer	855	45,000	46,000	48,000
Director, Foreign Students	266	32,945	38,315	30,700
Dean of Students	448	47,621	53,150	46,484
Director, Health and Safety	192	46,720	46,643	51,501
Director, Student Financial Aid	1,163	38,256	41,167	36,720
Director, Student Placement	845	35,880	39,990	34,453
Director, Student Counseling	817	41,556	45,563	37,914

SOURCE: College and Uninversity Personnel Association, *1990-91 Administrative Compensation Survey*

TABLE 245 (Continued)

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION AND CONTROL, 1990-91

POSITION	ALL INSTITUTIONS		MEDIAN SALARY	
	Number	Salary	Public	Private - Independent
Director, Student Union	258	$39,900	$42,877	$34,285
Director, Student Health Sevices (Physician Administration)	247	74,262	74,475	83,150
Director, Student Health Services (Nurse Administration)	517	28,248	31,872	28,591
Director, Student Housing	584	35,900	42,000	33,800
Director, Athletics	821	48,810	54,912	47,250
Director, Campus Recreation	376	31,500	34,605	28,440
Director, Sports Information	458	27,055	31,113	24,478
Director, Alumni Affairs	725	35,175	39,756	34,800
Director, Information Office	402	36,136	39,372	35,031
Director, Community Services	171	42,443	44,914	40,000
Administrator, Hospital Medical Center	43	125,035	121,688	152,200
Director, Publications	460	35,989	38,694	35,650
Director, Risk Management & Insurance	137	48,300	47,281	55,300
Director, Minority Affairs	275	37,012	38,290	35,159
Chief Development & Public Relations Officer	266	37,980	70,734	66,750
Director, Personnel & Affirmative Action	217	40,500	44,135	39,225
Manager, Personnel Information Systems	104	34,041	35,596	33,250
Director, Admissions & Financial Aid	136	47,567	47,396	51,013
Director, Development & Alumni Affairs	128	46,195	46,770	50,130
Director, Admissions & Registrar	201	45,893	47,000	40,300
Dean, Architecture	57	87,255	86,509	90,300
Dean, Agriculture	73	84,700	84,700	
Dean, Arts and Letters	121	61,250	62,498	51,000
Dean, Arts and Sciences	391	70,000	70,463	71,048
Dean, Business	594	70,000	69,600	78,420
Dean, Communications	85	57,600	63,814	64,813
Dean, Continuing Education	527	53,400	55,388	50,500
Dean, Denistry	43	115,000	114,000	117,500
Dean, Education	397	68,300	71,308	66,125
Dean, Engineering	241	88,564	89,954	86,000
Dean, Extension	87	60,062	64,350	49,338
Dean, Fine Arts	164	60,765	67,464	56,235
Dean, Graduate Programs	379	68,784	73,150	67,422
Dean, Health Related Professions	204	62,205	62,520	64,750
Dean, Home Economics	46	77,425	78,800	
Dean, Humanities	182	52,384	55,303	46,655
Dean, Instruction	46	56,476	56,751	55,335
Dean, Law	120	120,338	115,000	132,500
Dean, Library and Information Sciences	65	68,000	67,500	89,950
Dean, Mathematics	89	52,164	55,024	57,900
Dean, Medicine	64	160,172	149,606	200,500
Dean, Music	69	66,000	77,445	70,000
Dean, Nursing	262	60,000	65,152	60,368
Dean, Occupational Studies/Voc.Educ./Technology	207	54,600	54,600	53,101
Dean, Pharmacy	50	93,445	98,002	87,400
Dean, Public Health	14	110,750	107,500	
Dean, Sciences	221	58,314	62,051	54,920
Dean, Social Sciences	179	53,273	59,236	45,143
Dean, Social Work	58	78,981	81,454	81,013
Dean, Special Programs	113	47,000	50,468	50,400
Dean, Undergraduate Programs	97	61,392	65,275	60,600
Dean, Veterinary Medicine	20	106,963	106,525	

NOTE: Blanks indicate no data available

SOURCE: College and University Personnel Association, *1990-91 Administrative Compensation Survey.*

TABLE 246

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION, TYPE OF INSTITUTION AND SEX. 1990-91

POSITION	Doctoral Institutions		Comprehensive Institutions		General Baccalaureate Inst.		Two-Year Institutions	
	Men	Women	Men	Women	Men	Women	Men	Women
Chief, Executive Officer, System	$141,325	$163,910	$115,000	$112,500	$77,765	$82,688	$85,350	$75,600
Chief Executive Officer, Single Institution	132,235	126,800	100,000	89,075	91,000	90,300	79,614	75,260
Executive Vice President	119,102	114,096	80,748	72,500	64,000	62,790	69,036	61,027
Chief Academic Officer	113,600	103,000	82,328	83,006	65,000	58,000	60,954	59,927
Chief Admissions Officer	61,290	55,255	49,515	44,322	43,800	35,000	42,000	36,600
Chief Business Officer	97,650	104,190	78,732	70,399	62,679	50,000	58,518	44,940
Chief Administrative Officer	97,243	105,000	73,250	75,600	54,168	58,800	58,515	57,851
Chief Student Affairs Officer	87,200	83,900	69,500	63,002	50,950	46,640	55,813	51,259
Chief Development Officer	90,300	73,846	67,925	61,130	60,500	47,995	50,712	43,875
Chief Public Relations Officer	73,552	58,175	51,150	38,864	37,711	33,600	39,955	34,880
Chief Financial Officer	85,800	104,500	65,544	55,878	50,000	52,500	51,866	44,528
Chief Planning Officer	74,136	68,110	62,581	62,900	60,091	42,660	55,300	52,510
Chief Personnel/Human Resources Officer	67,400	64,677	51,818	49,141	45,340	33,285	51,104	39,975
Chief Health Professions Officer	156,000	82,590	107,484	51,885	35,135	50,755	58,650	47,893
Chief Planning & Budget Officer	80,615	74,870	66,153	49,920	52,547	39,215	44,077	
Chief Development & Public Relation Officers	96,800	93,769	74,892	60,765	59,575	48,492	49,565	38,709
Director, Health and Safety	57,520	58,150	41,077	35,000	36,121		36,750	40,216
Chief Budgeting Officer	65,629	57,739	53,500	43,535	49,389	35,070	51,422	38,053
General Counsel	86,891	74,200	59,844	72,063	49,203	55,786	49,502	45,900
Director, Telecommunications	58,000	46,624	41,861	40,088	33,380	22,123	42,174	35,000
Director, Learning Resources Center	51,900	37,500	47,882	31,430	30,708	27,550	46,945	38,877
Director, Library Services	77,400	80,700	57,360	52,800	40,538	36,674	43,979	38,904
Director, Computer Center	76,050	78,500	58,649	49,459	43,000	35,158	46,152	39,500
Director, Computer Center Operations/Academic	71,041	62,678	47,845	48,594	42,030	31,153	43,170	30,284
Director, Computer Center Operations/Administrative	65,000	64,650	51,910	41,600	39,627	29,550	41,158	41,503
Director, Educational Media Services	52,053	42,871	40,163	31,850	29,894	25,624	40,115	35,003
Director, Institutional Research	60,000	55,753	50,520	41,342	41,573	33,253	45,047	41,474
Director, Special & Deferred Gifts	58,500	49,265	50,000	44,169	42,196	32,691	35,961	28,979
Administrator, Grants & Contracts	67,310	51,969	53,000	39,316	36,500	29,376	45,366	37,815
Director, Affirmative Action/EEO	58,875	54,358	47,704	42,961	46,460	41,250	47,314	41,080
Dean of Students	58,973	58,650	52,780	47,450	41,884	37,425	48,393	48,816
Data Base Administrator	48,976	44,155	38,977	37,342	36,031	25,800	39,999	31,303
Systems Analyst I (Highest Level)	42,438	40,900	41,357	36,528	33,970	29,728	34,919	30,471
Systems Analyst II (Lowest Level)	30,583	27,963	28,738	29,292	26,060	23,367	29,597	30,377
Programmer Analyst I (Highest Level)	35,000	30,276	35,400	29,100	28,182	27,150	33,441	31,426
Programmer Analyst II (Lowest Level)	24,010	27,399	26,000	26,000	23,484	23,178	25,445	24,890
Director, Internal Audit	60,000	49,283	42,372	38,213	38,100	36,783	38,160	33,454
Bursar	47,400	44,000	38,850	34,299	37,541	26,851	40,486	25,320
Director, Accounting	52,872	47,055	42,996	38,027	36,101	29,493	38,989	31,966
Comptroller	73,824	63,043	53,278	45,861	44,145	36,197	44,720	37,239
Chief Physical Plant/Facilities Mgmt. Off.	72,105	70,108	53,810	61,500	41,000	33,050	41,434	41,207
Director, Development & Alumni Affairs	66,389	65,743	48,973	45,490	44,000	43,620	47,000	37,293
Director, Food Services	54,039	54,086	41,121	36,225	37,000	30,158	32,618	25,502
Director, Campus Ministries	39,950	49,058	35,743	31,112	27,720	23,175		28,550
Director, Purchasing	51,969	55,128	38,980	34,500	34,095	25,969	38,600	29,019
Director, Bookstore	46,505	36,880	36,469	29,676	29,450	22,322	32,772	24,250
Director, Campus Security	51,888	49,000	39,900	32,996	28,620	23,620	31,844	23,942
Director, Information Systems	61,038	58,164	52,488	36,208	45,091	37,382	53,928	40,000
Director, News Bureau	39,999	41,153	30,819	30,900	28,572	23,000	30,826	32,546
Director, Auxiliary Services	62,960	53,787	50,000	46,089	41,300	31,400	43,186	31,807
Director, Foreign Students	44,848	35,834	38,340	28,501	30,200	25,128	37,493	25,900
Director, International Studies Education	68,914	43,750	50,912	37,110	46,800	36,969	42,468	33,017

SOURCE: College and University Personnel Association, *1990-91 Administrative Compensation Survey.*

TABLE 246 (Continued)

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION, TYPE OF INSTITUTION, AND SEX. 1990-91

POSITION	Doctoral Institutions		Comprehensive Institutions		General Baccalaureate Inst.		Two-Year Institutions	
	Men	Women	Men	Women	Men	Women	Men	Women
Director, Student Financial Aid	$53,750	$51,084	$45,050	$37,100	$37,100	$30,000	$39,014	$34,459
Director, Student Placement	50,430	45,161	41,000	35,000	34,484	27,030	37,398	30,732
Director, Student Counseling	57,180	46,518	44,774	37,343	38,972	28,140	46,174	38,110
Director, Student Union	49,805	43,802	41,251	35,247	34,104	26,150	28,000	32,536
Director, Student Health Services (Physician Admin.)	86,564	79,183	70,000	61,656	45,625	28,644	67,644	32,754
Director, Student Activities	42,041	37,124	34,902	30,280	26,750	24,752	36,500	29,526
Director, Student Health Services (Nurse Admin.)		39,576	34,453	31,112	27,720	23,175		28,550
Director, Student Housing	53,991	47,564	40,000	34,318	30,316	25,700	28,020	22,850
Director, Sports Information	35,182	28,000	28,000	28,392	21,485	21,600	22,493	
Director, Athletics	80,268	51,000	56,200	43,070	40,400	32,710	40,635	37,385
Director, Campus Recreation	46,500	36,000	31,560	26,880	28,371	25,600	25,060	22,900
Director, Alumni Affairs	62,000	42,500	39,120	35,000	35,175	28,075	28,076	24,969
Director, Information Office	51,996	52,057	41,391	35,000	31,240	26,350	31,424	33,316
Director, Community Services	62,920	40,000	48,378	33,000	42,000	28,000	45,108	41,000
Director, Publications	45,936	43,500	38,811	32,500	30,637	29,700	31,650	33,905
Director, Risk Management and Insurance	53,000	49,751	41,095	39,678		31,169	41,963	37,126
Director, Personnal & Affirmative Action	48,500	77,500	52,875	42,151	37,100	30,000	44,065	38,860
Director, Admissions & Financial Aid	78,078	82,509	60,250	55,994	48,963	41,000	44,421	37,453
Director, Minority Affairs	46,725	41,000	39,325	34,062	33,298	27,000	31,200	32,100
Registrar	58,550	53,818	48,000	39,125	37,500	30,734	43,300	33,106
Director, Admissions & Registrar	66,839	65,170	53,242	60,000	38,578	22,735	45,639	39,771
Dean Architecture	89,127		79,100		61,242			
Dean, Agriculture	97,148		69,178		58,168	82,500	50,181	
Dean, Arts and Letters	96,046	88,000	68,109	73,882	52,044	43,946	50,324	42,673
Dean, Arts and Sciences	95,891	88,500	71,475	70,500	54,449	44,076	52,250	50,568
Dean, Business	103,588	88,313	77,500	71,005	52,616	44,996	49,664	51,560
Dean, Communmications	89,500	59,346	60,900	63,644	38,081	29,285	49,222	40,323
Dean, Continuing Education	77,346	67,000	60,857	50,393	49,180	40,015	50,980	48,458
Dean, Denistry	123,220		116,500			26,500	51,090	43,734
Dean, Education	88,012	85,950	68,300	65,660	50,000	39,115	50,856	46,912
Dean, Engineering	111,592	65,000	85,000		56,552		55,065	45,631
Dean, Extension	84,000	74,800	62,348	79,125	57,299	34,650	56,783	55,582
Dean, Fine Arts	84,400	83,050	67,400	66,880	43,550	36,559	50,328	42,848
Dean, Graduate Programs	88,350	86,670	65,520	59,095	47,220	47,000		
Dean, Health Related Professions	86,000	82,446	70,368	70,236	55,750	41,370	53,695	47,000
Dean, Home Economics	88,100	87,264	66,054	58,013	56,974	33,000	62,169	57,744
Dean, Humanities	86,596	95,226	64,825	65,920	45,792	40,000	53,500	46,870
Dean, Instruction	100,361				47,604	61,860	55,178	55,541
Dean, Law	124,000	131,850	115,400	128,750	107,620		41,110	43,004
Dean, Library & Information Sciences	83,828	82,500	64,445	58,738		47,308	52,530	44,872
Mean, Mathematics	91,537		52,500	59,170	39,430	33,469	54,316	47,748
Dean, Medicine	180,196		159,956					
Dean, Music	85,625	67,185	68,700	52,000	33,897	39,655	39,729	36,739
Dean, Nursing		88,000	69,547	65,152	65,733	46,088		44,249
Dean, Pharmacy	103,755		80,000		85,000		53,111	
Dean, Public Health	121,300	135,786	80,258					46,000
Dean, Occupational Studies/Voc. Educ./Technology	75,952	76,404	70,120	68,724	57,674	55,020	49,968	55,195
Dean, Sciences	101,810	77,000	68,280	61,059	48,603	39,500	52,500	47,346
Dean, Social Sciences	99,400	84,000	66,732	56,994	43,012	45,101	53,853	51,316
Dean Social Work	90,178	85,608	67,594	48,724	35,010	40,255	55,500	48,500
Dean, Special Programs	79,029	67,775	54,698	40,800	48,110	38,796	46,107	42,042
Dean, Undergraduate Programs	81,023	75,825	61,392	54,650	49,500	54,350	47,655	42,400
Dean, Veterinary Science	106,963							

NOTE: Blanks denote no cases.

SOURCE: College and University Personnel Association, *1990-91 Administrative Compensation Survey.*

TABLE 247

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION, TYPE OF INSTITUTION AND MINORITY/NON-MINORITY STATUS, 1990-91

POSITION	Doctoral Institutions		Comprehensive Institutions		General Baccalaureate Inst.		Two-Year Institutions	
	Minority	Non-Minority	Minority	Non-Minority	Minority	Non-Minority	Minority	Non-Minority
Chief, Executive Officer, System	$120,000	$141,325	$	$115,000	$69,772	$81,344	$95,000	$84,750
Chief Executive Officer, Single Institution	138,400	132,088	102,000	99,225	92,500	91,000	80,000	79,303
Executive Vice President	115,000	115,000	80,506	79,569	70,878	63,680	64,500	68,771
Chief Academic Officer	99,990	112,000	82,700	82,620	57,094	64,048	60,472	60,849
Chief, Admissions Officer	52,062	60,000	44,741	48,742	38,652	40,000	42,103	38,721
Chief Business Officer	99,796	97,825	73,730	77,914	52,734	61,668	59,030	57,500
Chief Financial Officer	87,900	86,000	56,755	63,784	52,500	51,806	57,563	50,000
Chief Student Affairs Officer	88,875	86,300	70,000	68,250	54,000	49,620	55,550	54,876
Chief Development Officer	76,560	89,619	70,954	66,522	41,500	59,462	50,599	48,014
Chief Public Relations Officer	90,742	68,523	42,496	45,200	37,054	35,300	37,426	36,302
Chief Health Professions Officer		154,000		83,844	39,750	48,035	44,710	48,000
Chief Administration Officer	78,375	96,272	79,356	73,183	56,789	54,168	59,072	57,933
Chief Planning Officer		71,464	48,257	62,713	42,762	56,500	57,632	54,743
Chief Planning & Budgeting Officer	71,177	80,000	90,840	58,850	60,500	50,684		44,077
Chief Personnel/Human Resources Officer	64,839	66,063	49,865	50,063	38,388	36,270	45,486	45,226
Chief Budgeting Officer	64,840	62,900	43,561	51,794	40,439	43,159	48,600	45,798
Director, Telecommunications	49,100	56,068	39,000	41,507	33,550	28,500		41,797
Director, Learning Resources Center	44,850	49,726	49,533	37,654	28,563	28,200	49,752	42,261
Director, Library Services	87,600	79,068	52,005	55,470	36,000	38,709	44,207	41,636
Director, Computer Center	66,900	77,800	55,707	58,240	39,442	42,400	42,000	46,194
Director, Computer Center Operations/Academic	61,374	60,779	38,160	48,983	37,750	37,908	53,805	41,444
Director, Computer Center Operations/Admin	59,293	65,017	55,590	48,708	32,429	36,500	40,045	41,503
Director, Health & Safety	64,400	57,296	45,588	38,453	32,153	45,000	41,365	36,750
Director, Educational Media Services	52,785	51,000	41,600	36,655	23,010	28,400	29,480	39,480
Director, Institutional Research	58,054	58,850	50,009	47,500	27,950	38,700	39,988	43,864
Administrator, Grants & Contracts	68,513	62,100	44,069	44,615	44,100	30,000	37,250	41,345
Director, Affirmative Action/ EEO	56,888	52,650	45,668	45,000	47,802	41,392	43,517	37,647
General Counsel	81,388	85,194	65,020	60,000	52,419	52,570	45,000	49,502
Data Base Administrator	43,450	48,976	21,716	38,497	15,000	33,800	36,757	38,767
Systems Analyst I (Highest Level)	41,264	43,400	50,960	38,729	27,000	33,130	28,850	33,828
Systems Analyst II (Lowest Level)	33,270	29,740	28,581	28,979	22,619	24,744	26,200	30,302
Programmer Analyst I (Highest Level)	29,302	35,013	34,803	33,000	29,970	27,377	33,685	32,386
Programmer Analyst II (Lowest Level)	27,399	25,680	26,344	26,000	25,500	23,010	25,358	25,445
Director, Accounting	47,292	52,300	40,420	40,440	30,230	31,189	40,198	35,544
Bursar	42,994	47,076	33,715	35,938	26,650	28,784	24,007	36,930
Comptroller	62,439	70,400	50,050	53,010	47,731	40,200	47,150	41,700
Chief Physical Plant/Facilities Mgmt Officer	72,180	71,805	53,943	53,810	30,000	41,000	41,287	41,334
Dean of Students	62,660	58,800	51,346	50,000	47,136	40,700	49,316	48,393
Director, Student Activities	53,608	39,140	31,950	32,450	27,090	25,066	34,241	32,400
Director, Food Services	67,170	53,475	38,000	40,376	27,100	36,213	28,190	29,525
Director, Purchasing	35,600	52,128	35,308	38,300	22,725	30,254	29,424	34,902
Director, Bookstore	48,500	45,824	33,500	33,734	14,750	24,020	28,997	26,389
Director, Campus Security	51,453	51,888	38,808	39,000	23,553	29,175	35,372	30,625
Director, Information Systems	67,116	60,250	47,258	51,857	18,000	44,230	50,000	51,684
Director, News Bureau	33,000	40,846	24,469	31,225	40,000	24,500	30,826	31,432

SOURCE: College and University Personnel Association, *1990-91 Administrative Compensation Survey.*

TABLE 247 (Continued)

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION, TYPE OF INSTITUTION AND MINORITY/NON-MINORITY STATUS, 1990-91

POSITION	Doctoral Institutions		Comprehensive Institutions		General Baccalaureate Inst.		Two-Year Institutions	
	Minority	Non-Minority	Minority	Non-Minority	Minority	Non-Minority	Minority	Non-Minority
Director, Auxiliary Services	$54,214	$62,464	$40,141	$50,000	$49,059	$35,854	$35,738	$40,950
Director, Sports Information	32,225	34,310	28,932	27,814	25,200	21,443		22,493
Director, Foreign Students	49,494	40,100	35,924	31,022	29,400	26,000	33,355	26,125
Director, Student Financial Aid	50,575	53,750	42,666	42,536	31,968	33,000	38,600	36,377
Director, Student Placement	43,350	49,346	38,847	38,050	23,500	29,363	33,993	33,676
Director, Student Counseling	53,507	54,583	40,119	42,906	29,800	33,693	44,524	42,818
Director, Student Union	43,904	48,783	37,221	39,910	33,662	28,000	27,113	33,709
Director, Student Health Services(Physician Admin.)	83,364	82,832	42,150	69,301	3[illegible],405	39,625		36,909
Director, Student Health Services(Nurse Admin.)	43,153	39,453	30,733	31,560	23,610	23,232	28,534	28,550
Director, Minority Affairs	43,000	46,758	36,733	37,126	32,009	29,450	31,200	
Director, Student Housing	45,489	52,860	38,400	37,023	27,825	27,853	21,100	25,927
Director, Athletics	72,107	79,884	59,618	54,737	42,800	40,000	38,725	39,926
Director, Campus Recreation	48,799	43,295	30,872	30,900	37,058	25,600	19,846	28,635
Director, Alumni Affairs	58,850	54,101	36,000	36,500	35,028	30,253	19,800	26,367
Director, Information Office	64,923	51,996	39,346	38,053	15,000	27,582	30,417	33,316
Director, Community Services	49,075	47,799	42,547	38,106	37,524	28,689	48,000	42,203
Director, Publications	41,636	44,868	34,500	36,800	26,982	30,000	17,824	33,603
Chief Development & Public Relation Officers	109,950	95,000	65,248	72,800	59,400	52,956		45,500
Director, Personnal & Affirmative Action	110,000	46,954	56,040	43,880	25,831	31,395	43,739	39,125
Director, Admissions & Financial Aid		[illegible]0,080		58,850	31,000	46,463	38,320	41,736
Director, Development & Alumni Affairs	60,000	[illegible],468	45,760	48,864	36,000	44,310		39,911
Registrar	51,291	57,100	45,495	44,413	37,346	33,446	34,723	36,949
Director, Admissions & Registrar	78,393	65,611	53,117	54,633	20,385	36,228	40,000	44,422
Dean, Agriculture	77,983	97,800	65,000	70,000	58,168	82,500		50,181
Dean, Arts and Letters		93,263	72,780	68,743		50,820	52,056	48,551
Dean, Arts and Sciences	105,900	95,211	70,610	71,475	52,837	54,000	53,500	51,582
Dean, Business	76,540	104,000	70,610	76,705	49,876	52,750	50,796	49,497
Dean, Communmications		88,200	63,644	60,900	27,000	35,200	44,553	48,694
Dean, Continuing Education	78,550	75,880	58,582	58,358	47,101	45,437	50,555	49,816
Dean, Education	87,125	87,700	69,950	67,500	45,921	46,860	55,711	48,570
Dean, Engineering	112,460	110,040	80,418	85,000		56,552		55,065
Dean, Extension		82,978	57,966	63,674		38,900	64,562	50,456
Dean, Fine Arts	87,940	82,594	54,644	67,405	26,800	43,550	49,432	46,731
Dean, Graduate Programs	108,450	87,205	68,606	64,194	53,550	47,000		
Dean, Health Related Professions	89,500	85,492	73,000	70,200	41,939	46,353	50,098	49,488
Dean, Home Economics	95,625	82,500	70,000	58,013	56,974	33,000		59,280
Dean, Humanities	39,178	92,055	64,650	66,054	46,800	42,752	51,660	50,258
Dean, Library & Info. Sciences	75,600	83,914	54,195	64,723		47,308	50,553	52,419
Dean, Mathematics		91,537	38,658	58,810	55,300	36,600	51,663	51,904
Dean, Music		85,500		66,054	27,000	38,600	45,332	36,739
Dean, Nursing	105,422	87,320	65,203	65,699	62,230	45,525	50,893	44,095
Dean, Occupational Studies/Voc. Educ./Technology		75,952	76,401	70,000		57,674	54,658	50,250
Dean, Pharmacy	87,249	104,300	90,048	79,500		85,000		53,111
Dean, Sciences	114,750	101,167	71,801	67,100	32,000	48,180	50,738	51,804
Dean, Social Sciences	99,400	98,984	74,908	66,054	42,387	43,395	55,654	51,138
Dean, Special Programs	62,230	74,500	40,800	54,698	55,174	45,721	44,815	45,098
Dean, Undergraduate Programs	77,564	79,762	68,386	57,000		53,850		47,575

NOTE: Blanks denote no reported cases.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Salaries of Full-Time Instructional Faculty on 9- and 10- Month Contracts in Institutions of Higher Education, 1979-80 Through 1989-90,* July 1991

TABLE 248

AVERAGE SALARIES OF FULL-TIME INSTRUCTIONAL FACULTY ON 9-10 MONTH CONTRACTS IN INSTITUTIONS OF HIGHER EDUCATION BY STATE AND ACADEMIC RANK

STATE	ACADEMIC RANK						
	ALL RANKS	PROFESSOR	ASSOCIATE PROFESSOR	ASSISTANT PROFESSOR	INSTRUCTOR	LECTURER	NO ACADEMIC RANK
Alabama	$33,308	$45,023	$35,001	$29,873	$23,090	$25,062	$30,239
Alaska	44,789	56,110	47,403	37,914	35,634		37,303
Arizona	40,903	54,251	40,403	34,254	23,669	27,149	37,277
Arkansas	31,588	41,507	33,584	28,780	22,648	17,311	25,231
California	46,476	60,012	43,057	36,307	31,022	35,591	34,836
Colorado	38,450	48,684	38,106	32,966	25,218	24,756	27,574
Connecticut	47,230	59,763	43,710	35,581	29,167	32,017	
Delaware	40,682	55,759	41,754	33,440	25,236	22,407	35,401
District of Columbia	44,708	59,340	42,116	34,203	27,927	28,919	23,843
Florida	38,027	49,788	37,303	32,296	26,904	29,824	33,634
Georgia	36,261	48,363	36,749	30,755	23,211	26,874	32,881
Hawaii	39,917	53,797	40,127	33,912	27,568		35,344
Idaho	32,118	39,511	33,472	30,133	26,108		25,951
Illinois	40,546	53,397	39,153	33,372	23,942	24,735	37,561
Indiana	37,442	50,175	37,808	31,341	21,426	25,399	24,503
Iowa	38,028	50,445	38,970	31,968	24,623	27,583	29,301
Kansas	34,629	46,048	35,617	29,254	22,523	23,742	28,836
Kentucky	32,714	41,716	32,740	27,949	22,151	21,790	20,753
Louisiana	33,275	43,808	34,777	29,259	22,081	19,084	25,759
Maine	36,794	49,151	37,561	31,105	24,443	31,232	28,564
Maryland	41,806	54,274	41,541	34,404	26,692	27,642	32,119
Massachusetts	46,113	58,134	43,144	35,570	27,706	38,771	27,126
Michigan	41,270	52,580	40,245	33,969	25,266	27,462	38,908
Minnesota	39,386	50,572	38,207	31,503	25,243	26,585	37,573
Mississippi	30,595	42,550	34,072	29,365	22,170	20,758	26,840
Missouri	35,621	46,489	35,876	30,623	24,046	20,109	27,890
Montana	29,780	36,529	30,320	26,195	21,256	25,817	25,255

NOTE: Blanks indicate Insufficient Data

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Salaries of Full-Time Instructional Faculty on 9- and 10- Month Contracts in Institutions of Higher Education, 1979-80 Through 1989-90,* July 1991

TABLE 248 (Continued)

AVERAGE SALARIES OF FULL-TIME INSTRUCTIONAL FACULTY ON 9-10 MONTH CONTRACTS IN INSTITUTIONS OF HIGHER EDUCATION BY STATE AND ACADEMIC RANK

STATE	ACADEMIC RANK						
	ALL RANKS	PROFESSOR	ASSOCIATE PROFESSOR	ASSISTANT PROFESSOR	INSTRUCTOR	LECTURER	NO ACADEMIC RANK
Nebraska	$34,745	$46,623	$35,519	$30,654	$23,628	$16,835	$24,477
Nevada	39,414	53,751	42,516	35,354	26,270	29,009	33,382
New Hampshire	38,783	48,543	36,878	31,388	25,432	25,229	19,215
New Jersey	45,136	58,869	43,867	35,379	26,662	31,861	37,719
New Mexico	34,661	45,441	35,155	36,942	24,765	25,876	27,675
New York	44,557	57,476	43,071	34,596	27,350	33,463	30,714
North Carolina	37,207	50,006	38,766	31,842	24,053	25,950	27,008
North Dakota	30,907	39,982	33,303	28,742	23,879	22,546	25,759
Ohio	40,141	52,460	40,366	32,707	25,315	22,412	30,153
Oklahoma	34,508	45,360	37,007	31,501	25,604	24,642	29,156
Oregon	34,342	43,279	34,239	28,893	22,980	20,485	32,643
Pennsylvania	41,177	53,723	40,260	33,406	25,377	24,678	25,465
Rhode Island	43,972	53,796	41,152	33,936	28,801	30,958	38,608
South Carolina	34,017	46,879	36,431	30,182	23,030	27,809	25,500
South Dakota	29,437	37,844	31,208	26,870	21,697	18,956	21,472
Tennessee	36,126	47,241	35,347	30,039	22,999	26,210	22,011
Texas	37,615	51,046	38,264	32,348	25,055	24,810	32,162
Utah	38,319	47,185	35,401	31,095	23,367	21,144	27,430
Vermont	36,018	49,275	36,644	29,973	25,915	28,909	26,109
Virginia	40,984	53,476	40,835	33,357	26,337	29,700	25,117
Washington	36,675	48,134	36,348	32,121	23,730	27,833	31,600
West Virginia	29,758	37,338	30,594	25,302	19,842	19,500	
Wisconsin	38,463	48,960	37,073	32,349	25,474	26,737	35,802
Wyoming	34,438	46,910	35,609	31,859	23,604	21,374	29,241
50 States & D.C.	39,965	52,809	39,381	32,694	25,001	28,973	32,794

NOTE:- Blanks indicate Insufficient data

SOURCE: U.S. Department of Education, *Salaries of Full-Time Instructional Faculty on 9- and 10- Month Contracts in Institutions of Higher Education, 1979-80 Through 1989-90, July 1991*

TABLE 249

AVERAGE SALARY, OF FULL-TIME FACULTY IN INSTITUTIONS OF HIGHER EDUCATION ON 9-OR 10-MONTH CONTRACTS BY TYPE OF INSTITUTION AND SEX, 1989 - 90

TYPE OF INSTITUTION	Total	Men	Women
PUBLIC INSTITUTIONS			
4-Year	$42,355	$44,041	$35,704
2-Year	34,404	35,888	32,346
PRIVATE INSTITUTIONS			
4-Year	39,860	42,647	33,002
2-Year	24,601	25,218	24,000

TABLE 250

AVERAGE SALARY OF FULL-TIME INSTRUCTIONAL FACULTY IN HIGHER EDUCATION ON 9- OR 10- MONTH CONTRACTS BY ACADEMIC RANK AND SEX., 1989 - 90

ACADEMIC RANK	Salary	Women's Salary as % of Men's
ALL RANKS	$39,965	
Men	42,629	79.6
Women	33,936	
PROFESSOR	52,809	
Men	53,646	88.9
Women	47,673	
ASSOCIATE PROFESSOR	39,381	
Men	40,128	93.3
Women	37,441	
ASSISTANT PROFESSOR	32,694	
Men	33,783	92.1
Women	31,099	
INSTRUCTOR	25,001	
Men	25,891	93.9
Women	24,302	
LECTURER	28,973	
Men	31,102	86.9
Women	27,031	
UNDESIGNATED OR NO ACADEMIC RANK	32,794	
Men	34,070	91.0
Women	31,019	

TABLE 251

AVERAGE SALARY OF FULL-TIME INSTRUCTIONAL FACULTY IN HIGHER EDUCATION ON 9- OR 10- MONTH CONTRACTS BY ACADEMIC RANK AND TYPE OF CONTROL, 1989 - 90

ACADEMIC RANK & TYPE OF CONTROL	TYPE OF INSTITUTION	
	4- Year	2- Year
All Ranks		
Public	$42,355	$34,404
Private	39,860	24,601
PROFESSOR		
Public	53,861	44,496
Private	52,859	30,469
ASSOCIATE PROFESSOR		
Public	40,637	37,041
Private	37,918	26,366
ASSISTANT PROFESSOR		
Public	33,741	31,685
Private	31,388	24,788
INSTRUCTOR		
Public	24,820	26,593
Private	24,285	22,334
LECTURER		
Public	28,630	29,156
Private	30,010	
NO ACADEMIC RANK		
Public	30,975	33,352
Private	28,682	23,451

NOTE: Blanks indicate too few faculty for reliable results

SOURCE: National Education Association, *Estimates of School Statistics 1990-91*

TABLE 252

ESTIMATED AVERAGE ANNUAL SALARIES OF ELEMENTARY AND SECONDARY INSTRUCTIONAL STAFF AND PUBLIC SCHOOL CLASSROOM TEACHERS BY STATE, 1990-91

STATE	Instructional Staff	CLASSROOM TEACHERS			% Increase 1989 - 90
		Elementary School	Secondary School	All Teachers	
50 STATES & D.C.	$34,456	$32,448	$33,701	$33,015	5.4
Alabama	28,800	27,300	27,300	27,300	7.9
Alaska	44,454	43,285	44,094	43,861	1.6
Arizona	35,159	30,771	31,347	30,780	4.7
Arkansas	23,345	21,919	23,211	23,040	3.1
California	40,964	38,734	41,119	39,598	4.2
Colorado	33,067	31,112	32,912	32,020	4.1
Connecticut	45,356	43,290	45,100	43,847	8.4
Delaware	36,500	34,000	36,200	35,200	5.5
District of Columbia	51,278	42,288	42,288	42,288	11.4
Florida	31,940	30,348	30,072	30,387	5.5
Georgia	33,522	28,855	28,555	28,555	3.0
Hawaii	33,548	32,541	32,541	32,541	1.5
Idaho	26,591	25,019	26,039	25,485	6.8
Illinois	35,913	33,177	37,976	34,729	5.9
Indiana	32,270	31,713	32,858	32,178	5.9
Iowa	28,883	26,874	28,938	27,949	4.5
Kansas	31,390	29,923	29,923	29,923	4.1
Kentucky	30,395	28,362	30,620	29,089	10.6
Louisiana	27,040	26,240	26,240	26,240	8.0
Maine	29,701	28,107	29,844	28,700	6.8
Maryland	39,827	37,320	39,577	38,806	6.0
Massachusetts	41,770	36,090	36,090	36,090	4.0
Michigan	38,554	37,457	37,819	37,682	4.6
Minnesota	34,464	33,421	34,289	33,284	3.4
Mississippi	25,256	24,057	25,020	24,443	0.3
Missouri	29,750	27,698	29,565	28,607	5.1
Montana	30,321	25,552	27,686	26,210	4.5
Nebraska	28,093	26,592	26,592	26,592	4.2
Nevada	33,709	31,208	33,679	32,209	5.3
New Hampshire	30,926	31,329	31,329	31,329	8.1
New Jersey	40,785	38,080	39,992	38,790	8.7
New Mexico	27,494	25,498	26,892	26,194	4.8
New York	42,700	40,200	42,900	41,600	6.9
North Carolina	30,196	29,233	28,984	29,082	4.3
North Dakota	24,349	23,494	23,727	23,578	2.4
Ohio	33,873	31,702	33,765	32,615	4.5
Oklahoma	25,341	23,971	25,418	24,649	6.8
Oregon	33,600	31,600	33,200	32,200	4.4
Pennsylvania	36,259	34,966	35,978	35,471	6.4
Rhode Island	38,733	37,174	38,368	37,674	4.5
South Carolina	29,430	27,556	29,379	28,174	3.5
South Dakota	23,181	22,093	22,973	22,363	5.0
Tennessee	29,371	27,772	29,398	28,248	4.4
Texas	29,405	27,741	28,943	28,321	3.0
Utah	25,415	25,238	25,600	25,415	7.3
Vermont	32,260	30,274	31,611	30,986	7.6
Virginia	33,151	31,287	33,911	32,382	4.6
Washington	34,373	32,331	33,900	32,975	8.3
West Virginia	26,967	25,574	26,439	25,958	13.6
Wisconsin	33,580	31,768	34,289	33,100	3.7
Wyoming	30,162	28,797	29,137	28,988	2.8

BIBLIOGRAPHY OF SOURCES

(Listed in Alphabetical Order by Publisher)

ABBOTT, LANGER & ASSOCIATES, 548 First Street, Crete, IL 60417

College Recruiting Report 1990, 104 pp. $195

Compensation in the Accounting/Financial Field, 11th Edition, 409 pp., $425

Compensation and Benefits in Research and Development, Fifth Edition, Part I, 274 pp., Part II, 283 pp.; Part III, 191 pp.; $525 or $210 each part

Compensation of Industrial Engineers, 11th Edition, Sponsored by **American Institute of Industrial Engineers Inc.**, April 1989, ISBN No. 0-916506-82-7, 159 pp., $130

Compensation in Manufacturing, Tenth Edition, 192 pp., $395

Compensation in the MIS/dp Field, Eighth Edition, Sponsored by **Data Processing Management Association**, 560 pp., $550

AMERICAN ASSEMBLY OF COLLEGIATE SCHOOLS OF BUSINESS, 605 Old Ballas Road, Suite 220, St. Louis, MO 63141-7077

1990-91 Salary Survey, December 1990, 78 pp.

AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY, 1426 Prince Street, Alexandria, VA 22314-2841

Annual Survey of Faculty Salaries 1988-89, by Richard D. Penna and Michael S. Sherman, 35 pp.

AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS, 1012 14th St., N.W., Suite 500, Washington, DC 20005

"The Annual Report on the Economic Status of the Profession, 1990-91," ACADEME, March-April 1991, Vol. 77, No. 2, ISBN No. 0190-2946, 89 pp., $35

AMERICAN CHEMICAL SOCIETY, 1155 - 16th Street, N.W., Washington, DC 20036

"As Unemployment Stays Very Low, Salaries Improve Moderately," CHEMICAL & ENGINEERING NEWS, Vol. 68, July 9, 1990, pp. 37-42

Salaries 1990 - Analysis of the American Chemical Society's 1990 Survey of Salaries and Employment, July 1990, ISBN No. 08412-1867-6, 174 pp., $170

Starting Salaries of Chemists and Chemical Engineers 1990, Analysis of the American Chemical Society's Survey of Graduates in Chemistry and Chemical Engineering, November 1990, ISBN No. 0-8412-1910-9, 109 pp., $29.95

Women Chemists 1990, December 1990, ISBN No. 0-8412-1909-5, 418 pp., $39.95

AMERICAN GEOLOGICAL INSTITUTE, 4220 King Street, Alexandria, VA 22302-1507

AGI 1990-91 Geoscience Faculty Salary Survey, May 1991

Geoscientific Employment and Hiring Survey, 1990, ISBN No. 0-922152-08-X, 87 pp.

GEOTIMES, June 1991, Vol. 36, No. 6, p. 13

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, 345 East 47th Street, New York, NY 10017

AIChE 1990 Salary Survey Report, 1990, 12 pp.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, available from Robert R. Furgason, Vice Chancellor for Academic Affairs, University of Nebraska, Lincoln, NB 68588-0420

1989-90 Survey of Faculty Salaries - Chemical Engineering Departments, Prepared by Robert R. Furgason

AMERICAN INSTITUTE OF PHYSICS, 335 East 45th Street, New York, NY 10017

1989-90 Survey of Physics and Astronomy Bachelor's Degree Recipients, by Susanne D. Ellis and Patrick J. Mulvey, AIP Pub. No. R-211.22, April 1991, 8 pp.

1988-89 Graduate Student Survey, by Susanne D. Ellis and Patrick J. Mulvey, AIP Pub. No. R-207.22, September 1990, 12 pp.

1990 Salaries - Society Membership Survey, by Dawn Kellman and Catherine Scholz, AIP Pub. No. 311.06, ISBN No. 0-88318-912-7, May 1991

AMERICAN MATHEMATICAL SOCIETY, P. O. Box 6248, 421 South Main Street, Providence, RI 02904

"Faculty Salary Survey," NOTICES, November 1990, Vol. 37, No. 9, pp. 1227-1230

"Salary Survey for New Doctorates," NOTICES, November 1990, Vol. 37, No. 9, pp. 1223-1226

AMERICAN POLITICAL SCIENCE ASSOCIATION, 1527 New Hampshire Avenue, N.W., Washington, DC 20036

1989-90 APSA Survey of Departments, 1990, 41 pp.

AMERICAN PHYSIOLOGICAL SOCIETY, 9650 Rockville Pike, Bethesda, MD 20814

"Association of Chairmen of Departments of Physiology Annual Questionnaire Result," THE PHYSIOLOGIST, Vol. 33, No. 3, June 1990

AMERICAN PSYCHOLOGICAL ASSOCIATION, 1200 17th Street, N.W., Washington, DC 20036

1990-91 Faculty Salaries in Graduate Departments of Psychology, February 1991

Salaries in Psychology, 1989, February 1990, 52 pp.

ASSOCIATION OF DATA PROCESSING SERVICE ORGANIZATIONS, 1300 - North 17th Street, Arlington, VA 22209. Survey carried out and available from **Mercer-Meidinger-Hansen, Inc.**

1990 ADAPSO Compensation Survey Results, January 1, 1990, $350 members/participants, $500 members/non-participants, $700 all others

CAHNERS PUBLISHING COMPANY, Box 5080, 1350 Touhy Avenue, Des Plaines, IL 60017-5080

"You'll Be Better Paid in 1990, Despite the Shaky Economy," by Robert R. Jones, Editor, RESEARCH AND DEVELOPMENT, March 1990; **"What's a PhD Worth? Try $2 Million,"** by Robert R. Jones, Editor, RESEARCH AND DEVELOPMENT, May 1990; and **"Salaries Up, Benefits Down, U.S. Researchers Say,"** by John Morkes, Associate Editor, RESEARCH AND DEVELOPMENT, June 1991

"Salaries Rise 5.6% in Soft Market," DATAMATION, Vol. 36, November 1, 1990; pp. 42-48

COLLEGE PLACEMENT COUNCIL, 62 Highland Avenue, Bethlehem, PA 18017

CPC Salary Survey, A Study of 1990-91 Beginning Offers, July 1991, ISSN No. 0196-1004, 40 pp., available only to members and Salary Survey subscribers

COLLEGE & UNIVERSITY PERSONNEL ASSOCIATION, 1233 20th Street, Suite 503, N.W., Washington, DC 20036

1990-91 Administrative Compensation Survey, ISBN No. 0-910402-97-3, 116 pp., $65 CUPA members; $160 non-member participants in survey; $285 all other non-members

COLLEGE & UNIVERSITY PERSONNEL ASSOCIATION (continued)

1990-91 National Faculty Salary Survey by Discipline and Rank in State Colleges and Universities, ISBN No. 0-910402-99-X, 48 pp., $20 survey participants, $30 CUPA members, $60 non-members

1990-91 National Faculty Salary Survey by Discipline and Rank in Private Colleges and Universities, ISBN No. 0-910402-99-X, 48 pp., $20 survey participants, $30 CUPA members, $60 non-members

COOPERATIVE EDUCATION RESEARCH PROGRAM, Wayne State University, University Placement Services, 5050 Cass Avenue, Detroit, MI 48202

1990 Midwest Cooperative Education Student Employee Salary and Benefits Survey, compiled by John A. Crusoe, February 1, 1991, 38 pp., $15

ENGINEERING MANPOWER COMMISSION of **American Association of Engineering societies**, Publications Department, 415 Second Street, Suite 200, N.E., Washington, DC 20002

Engineers' Salaries, Special Industry Report 1990, ISBN No. 0-87615-175-6, 230 pp., $169 members, $287.50 non-members

Professional Income of Engineers, 1990, ISBN No. 0-87615-144-6, 132 pp., $59.50 members, $97 non-members

Salaries of Engineers in Education, 1990, ISBN No. 0-87615-158-6, 96 pp., $70 members, $112 non-members

ROBERT HALF INTERNATIONAL, Washington, DC Office, 7200 Wisconsin Avenue, Suite 300, Bethesda, MD 20814

Salary Guide 1991 ▪ Accounting ▪ Finance ▪ Information Systems, 24 pp., 1991

THE HAY GROUP, 1500 K Street, N.W., Washington, DC 20005

1990 Participant Report - National Compensation Survey of Research and Development Scientists and Engineers, May 1990

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC., IEEE Service Center, 445 Hoes Lane, P. O. Box 1331, Piscataway, NJ 08854-1331. Survey prepared by **Westat, Inc.**

IEEE U. S. Membership Salary and Fringe Benefit Survey: 1991, Pub. No. UH0185-9, May 1991, $74.95 members; $99.95 non-members

MERCER-MEIDINGER-HANSEN, Inc., Sponsored by **ADAPSO**, 1417 Lake Cook Road, Deerfield, IL 60015

1990 ADAPSO Compensation Survey Results, January 1, 1990, $350 members and participants, $500 members and non-participants, $700 all others

MICHIGAN STATE UNIVERSITY, Career Development and Placement Services, 113 Student Services Building, East Lansing, MI 48824-1113

Recruiting Trends 1990-91, December 1990, 14 pp., $25

NATIONAL EDUCATION ASSOCIATION, 1201 16th Street, N.W., Washington, DC 20036. Order from NEA Professional Library, P.O. Box 509, West Haven, CT 06516

Estimates of School Statistics, 1990-91, April 1991, 41 pp., $16.95

NATIONAL SCIENCE FOUNDATION, 1800 G Street. N.W., Washington, DC 20550

Characteristics of Doctoral Science and Engineers in the United States, 1989, Unpublished Data

Characteristics of Recent Science/Engineering Graduates: 1988, NSF 90-305

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS, 1420 King Street, Alexandria, VA 22314. Survey prepared by **Abbott, Langer & Associates**

Professional Engineer Income and Salary Survey 1990, NSPE Pub. No. 0090, May 1990, 125 pp., $40 members, $100 non-members

NORTHWESTERN UNIVERSITY, The Placement Center, Scott Hall, Evanston, IL 60208-1005

THE NORTHWESTERN LINDQUIST-ENDICOTT REPORT 1991 - Employment Trends for College Graduates in Business, 45rd Annual Survey, by Victor R. Lindquist, February 1991, 16 pp., $35

U.S. DEPARTMENT OF EDUCATION, National Center for Education Statistics, Office of Education Research and Improvement, 555 New Jersey Avenue, Washington, DC 20208

Salaries of Full-Time Instructional Faculty on 9- and 10-Month Contracts in Institutions of Higher Education, 1979-80 Through 1989-90, NCES, 91-216, July 1991

U. S. DEPARTMENT OF LABOR, Bureau of Labor Statistics, Available from the U.S. Government Printing Office, Washington, DC 20402

White Collar Pay: Private Goods-Producing Industries, March 1990, Bulletin 2374, October 1990, 123 pp., $6.50

Occupational Outlook Handbook, 1990-91 Edition, Bulletin 2350, April 1990, 492 pp. $17 paper, $22 hard cover

U.S. DEPARTMENT OF LABOR, Bureau of Labor Statistics, Washington, DC 20212

Current Population Survey, 1990 Annual Averages, Unpublished Tabulations

Usual Weekly Earnings of Wage and Salary Workers: Second Quarter 1990, USDL 90-390, July 27, 1990

U.S. OFFICE OF PERSONNEL MANAGEMENT, 1900 E Street, N.W., Washington, DC 20415

Federal Civilian Workforce Statistics, Occupations of Federal White-Collar Workers, September 30, 1990, Unpublished

General Pay Classification Schedule, January 1, 1991

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